

Trish Price & Peter Price



Bring It On!

Book 4: Percentages Worksheets



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Bring It On! Percentages Worksheets

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Scope and Sequence – Developing Number Fluency "Times Tables"

	Addition & Subtraction to 10	Addition	Subtraction	Addition & Subtraction Revision	Addition	Subtraction	Addition & Subtraction	Easy Multiplication and Division	Extended Addition & Subtraction	Multiplication	Division	Multiplication and Division Revision	All Operations Revision	Extended Multiplication and Division	Division with Remainders	Factors & Multiples	Mental Strategies	All Operations Advanced Revision	Fractions	Percentages
Series		Let's	Go!		Ten	Minu Lev	tes a l el 1	Day	Ten Minutes a Day Level 2			Ten Minutes a Day Level 3				Bring It On!				
Gr 1/ Yr 2																				
Gr 2/ Yr 3																				
Gr 3/ Yr 4																				
Gr 4/ Yr 5																				
Gr 5/ Yr 6																				



Developing Fluency Worksheets Series



Grade 1 / Year 2



Grade 2 / Year 3



10 Minutes a Day Level 2 Book E Extended Addition & Subtraction Worksheet

h Price & Peter Pric









Grade 5 / Year 6

Four eBooks:

- Addition & Subtraction to 10
- Addition
- Subtraction
- Addition & Subtraction Revision

Four eBooks:

- Addition
- Subtraction
- Addition & Subtraction Revision
- Easy Multiplication & Division

Four eBooks:

- Extended Addition & Subtraction
- Multiplication
- Division
- Multiplication & Division Revision

Four eBooks:

- All Operations Revision
- Extended Multiplication & Division
- Division with Remainders
- Factors & Multiples

Four eBooks:

- Mental Strategies
- All Operations Advanced Revision
- Fractions
- Percentages



Grade 5 / Year 6 eBooks series: Bring It On!

Each worksheets eBook contains:

- * Daily worksheets for 10 weeks
- * Carefully graded and sequenced activities
- * Lots of revision activities
- * 5 Checkup worksheets for assessment
- * 20 Homework worksheets with parents' advice
- * All answer keys
- * PDF download for easy access
- * Teaching strategies advice
- * 30-day money-back guarantee

Fractions:

- Multiplying by fractions
- Improper and mixed numbers
- Equivalent fractions
- Simplifying fractions Comparing fractions
- Adding & subtracting fractions
- Adding & subtracting mixed nos
- Converting decimals & common fractions
- Advanced fractions to decimals
- Revision

Percentages:

- Introduction to percentages
- Converting common fractions to percent
- 10%, 10% discount
- 50%, 50% discount
- 25%, 25% discount
- 100%+
- 10% increase, 50% increase
- 100% increase, 200+% increase
- 1%, 0.5%
- Advanced percentages
- Percentage Revision



- Mental Strategies:
- Multiplying by 10, 100 or 1000
- Dividing by 10, 100 or 1000
- Doubling 2-digit & 3-digit nos
- Halving 2-digit & 3-digit nos
- Adding "nice" numbers
- Adding near 100
- Subtracting near 100
- Multiplying 2- & 3-digit nos x5
- Multiplying larger nos x50, x25
- Revision

All Operations Advanced Revision:

- Count on/back; Double
- Difference of; 5x, 10x
- Rainbow facts; 3x
- Doubles+1; 4x
- Near 10; 9x
- Remaining & Ext. Facts; 6x
- Doubling 2-digit numbers; 8x
- Halving 2-digit numbers; 7x
- Adding "nice" numbers
- Multiplying / dividing by 10, 100, 1000





Contents: Bring It On! Percentages

Classroom Worksheets

Introduction to percentages	1[A] - 1[D]
Converting common fractions to percent	2[A] - 2[D]
Percent 10%, 10% discount	3[A] - 3[D]
Percent 50%, 50% discount	4[A] - 4[D]
Percent 25%, 25% discount	5[A] - 5[D]
Percent 100%+	6[A] - 6[D]
Percent 10% increase, 50% increase	7[A] - 7[D]
Percent 100% increase, 200+% increase	8[A] - 8[D]
Percent 1%, 0.5%	9[A] - 9[D]
Advanced percentage	10[A] - 10[D]
Percentage revision	11[A] - 11[D]

Check Up Worksheets

Introduction to percentages; Converting common fractions to percent	Check Up A
10%, 50% discount	Check Up B
25% discount, 100+%	Check Up C
10%, 50%, 100+% increase	Check Up D
1%, 0.5%, Advanced percent, revision	Check Up E

Homework Worksheets

Introduction to percentages	1 HW
Converting common fractions to percent	2 HW
Percent 10%	3 HW
Percent 50%	4 HW
Percent 25%	5 HW
Percent 100%+	6 HW
Percent 10% increase	7 HW
Percent 100% increase	8 HW
Percent 1%, 0.5%	9 HW
Advanced percentage	10 HW
Percentage revision	11 HW

Answer Keys



Recommended eBook	Description					
CLASSROOM Trish Price & Peter Price	The <i>Bring It On!</i> series includes advanced worksheets which cover a range of topics, for students who have memorized all the number facts for the four operations. These eBooks may be used at a range of grade levels, starting in Grade 4.					
	Book 1 of this series introduces students to a sequence of mental strategies which may be used in many contexts involving mental computation. For example, worksheets cover multiplying by powers of 10, doubling and halving 2- and 3-digit numbers, and adding and subtracting near 100.					
Bring It On!	Book 2 is useful for students at this level to revise the four operations' number facts. This book should be used if students need to develop fluency with the basic facts, and will also introduce advanced facts involving larger numbers (e.g., $600 \times 3 = ?$; $2 \times 0.6 = ?$), and order of operations questions (e.g., $8 + 15 \div 5$).					
Book 1: Mental Strategies Worksheets Bring It On! Series:	Book 3 covers a range of questions involving fractions, including finding equivalent fractions, converting common fractions to decimals, comparing fractions with like or unlike denominators, and adding and subtracting fractions with like denominators.					
 Mental Strategies All Operations Advanced Revision Fractions Percentages 	Book 4 introduces students to percentages, and includes calculations involving convert common fractions to percentages, percentage discounts and increases, and percentages great than 100% and less than 1%.					

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Common Core State Standards for Mathemat						
Grade 4 Number and Operations—	Grade 5 Operations & Algebraic Thinking	Grade 6 Ratios and Proportional				
Fractions	Write and interpret numerical expressions	Relationships				
 Extend understanding of fraction equivalence and ordering. Compare two fractions with different numerators and different denominators. Record the results of comparisons with symbols >, =, or <. Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers. Add and subtract mixed numbers with like denominators. 	 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. Grade 5 Number and Operations—Fractions Use equivalent fractions as a strategy to add and subtract fractions Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. Grade 5 Number and Operations in Base Ten Understand the place value system Read, write, and compare decimals to thousandths. 	 Understand ratio concepts and use ratio reasoning to solve problems Find a percent of a quantity as a rate per 100; solve problems involving finding the whole, given a part and the percent. 				

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Alignment with the UK National Curriculum for Mathematics (draft 21 June 2012)

Recommended eBook	Description							
CLASSROOM Trish Price & Peter Price	The <i>Bring It On!</i> series includes advanced worksheets which cover a range of topics, for students who have memorized all the number facts for the four operations. These eBooks may be used at a range of Year levels, starting in Year 4.							
	Book 1 of this series introduces students to a sequence of mental strategies which may be used in many contexts involving mental computation. For example, worksheets cover multiplying by powers of 10, doubling and halving 2- and 3-digit numbers, and adding and subtracting near 100.							
Bring It On!	Book 2 is useful for students at this level to revise the four operations' number facts. This book should be used if students need to develop fluency with the basic facts, and will also introduce advanced facts involving larger numbers (e.g., $600 \times 3 = ?$; $2 \times 0.6 = ?$), and order of operations questions (e.g., $8 + 15 \div 5$).							
Bring It On! Series:	Book 3 covers a range of questions involving fractions, including finding equivalent fractions, converting common fractions to decimals, comparing fractions with like or unlike denominators, and adding and subtracting fractions with like denominators.							
 Mental Strategies All Operations Advanced Revision Fractions Percentages 	Book 4 introduces students to percentages, and includes calculations involving conversion fractions to percentages, percentage discounts and increases, and percentages grathan 100% and less than 1%.							



National Curriculum for Mathematics								
Year 4	Year 5							
Fractions	Addition and subtraction							
 Pupils should be taught to: identify and name equivalent fractions of a given fraction with denominator not greater than 12 	 Pupils should be taught to: add and subtract numbers mentally with increasingly large numbers. Multiplication and division 							
 write the equivalent fraction of a fraction given the denominator or the 	Pupils should be taught to:multiply and divide numbers by 10, 100 and 1000							
• numerator	Fractions							
 reduce fractions to their simplest form add and subtract two fractions with common denominators within one whole Decimals Pupils should be taught to: compare numbers with the same number of decimal places up to 2 decimal places 	 Pupils should be taught to: compare and order fractions with different denominators recognise mixed numbers and improper fractions and convert from one form to the other add and subtract fractions with the same denominator and related fractions;, write mathematical statements that exceed 1 as a mixed number. Decimals 							
 find the effect of dividing a 2-digit number by 10 and 100, identifying the value of the digits in the answer as units, tenths and hundredths recognise and write decimal equivalents to ¹/₄, ¹/₂, ³/₄ and any number of tenths and 	 Pupils should be taught to: read and write decimal numbers as fractions recognise and use thousandths and relate them to tenths, hundredths and 100 decimal equivalents Percentage 							
hundredths.	 Pupils should be taught to: recognise the per cent symbol (%) and understand that per cent relates to "number of parts per hundred" for example that 100% represents a whole quantity and 1% is 1/100 , 50% is 50/100 , 25% is 25/100, etc. write simple fractions as percentages and decimals as percentages (e.g. ½ = 50% = 0.5). 							

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Bring It On! series: Alignment with the Australian Curriculum

eBook Series	Series Titles	Australian Curriculum: Content Descriptions				
Trish Price & Peter Price	 Bring It On! Series: Mental Strategies All Operations Advanced Revision Fractions Percentages 	 Year 4 Investigate equivalent fractions used in contexts (ACMNA077) Recognise that the place value system can be extended to tenths and hundredths. Make connections between fractions and decimal notation (ACMNA079) Year 5 Identify and describe factors and multiples of whole numbers and use them to solve problems (ACMNA09) Compare and order common unit fractions and locate and represent them on a number line (ACMNA102) Investigate strategies to solve problems involving addition and subtraction of fractions with the sam denominator (ACMNA103) Recognise that the place value system can be extended beyond hundredths (ACMNA104) 				
		 Year 6 Identify and describe properties of prime, composite, square and triangular numbers (ACMNA122) Select and apply efficient mental and written strategies and appropriate digital technologies to solve problems involving all four operations with whole numbers (ACMNA123) Compare fractions with related denominators and locate and represent them on a number line (ACMNA125) Solve problems involving addition and subtraction of fractions with the same or related denominators (ACMNA126) Multiply and divide decimals by powers of 10 (ACMNA130) 				



eBook Series	Series Titles	Australian Curriculum: Content Descriptions					
the price & Peter Price Thish Price & Peter Price Continued Interview of the second Interview of the second Intervie	 Bring It On! Series: Mental Strategies All Operations Advanced Revision Fractions Percentages 	 Year 6 Find a simple fraction of a quantity where the result is a whole number, with and without digital technologies (ACMNA127) Make connections between equivalent fractions, decimals and percentages (ACMNA131) Investigate and calculate percentage discounts of 10%, 25% and 50% on sale items, with and without digital technologies (ACMNA132) Year 7 Investigate index notation and represent whole numbers as products of powers of prime numbers (ACMNA149) Compare fractions using equivalence. Locate and represent positive and negative fractions and mixed numbers on a number line (ACMNA152) Express one quantity as a fraction of another, with and without the use of digital technologies (ACMNA155) Connect fractions, decimals and percentages and carry out simple conversions (ACMNA157) Find percentages of quantities and express one quantity as a percentage of another, with and without digital technologies (ACMNA158) 					

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Teaching Strategies



Teaching Strategies Fact Sheets

The Teaching Strategies Fact Sheets provide expert information for teachers about the recommended strategy-based approach to the teaching of arithmetic facts.



Strategies to use with Percentages

Introducing Percentages

Many students are taught percentages as a "new" topic, unrelated to previous learning about numbers. This is a mistake, since it does not allow the student to recognise and make connections between concepts already learned and the new material.

Percentages are closely related to common fractions, decimal fractions and base ten numbers generally. The aspect that most clearly separates percentages from other types of number is its notation: it is simply a unique way to record fractional amounts.

"Percent" literally means "in every hundred". Thus every percentage is a number of hundredths, written so that the hundredths are written as a whole number, with the percent symbol (%).

The idea that percentages are not a new concept, but are a way of writing hundredths, should be presented early to students. Exercises should be provided for writing equivalent percentages, common fractions and decimal fractions, based on this idea that percentages are hundredths. For example:

$$45\% = 0.45 = \frac{45}{100}$$

Pictorial models based on a "hundred square" can also be used to represent these fractions:



Early exercises in this eBook focus on writing percentages as a common fraction or a decimal fraction, to help students to associate the three fraction notations.

Writing Tenths as Percentages

Students should be reminded that percentages are always hundredths. In other words, they have an "understood" or "implied" denominator of 100. Therefore, to write a fraction in tenths as a percentage, we need to convert it to hundredths first. For example:

$$\frac{8}{10} = \frac{80}{100} = 80\%$$

Converting Other Common Fractions to Percents

To write any fraction as a percentage, it is necessary to find the equivalent number of hundredths. Students should use their knowledge of equivalent fractions to



convert a common fraction into hundredths, then write the fraction as a number of percent. For example:

$$\frac{6}{20} = \frac{30}{100} = 30\%$$

Finding 10% of a Number

Students should be reminded that 10% means "ten hundredths", or one tenth. They should also recall that multiplying by one tenth is the same operation as dividing by 10, which is done by moving the digits one place to the right. For example:

$$10\% \times 65 = \frac{1}{10} \times 65 = 6.5$$

Calculating 10% Discount

Calculating a discount is a common real-life activity. It is based on finding the fraction first, then subtracting that amount from the "full" or "original" price. For example, to find 10% off a price of \$40:

10% of \$40 = \$4 Discounted price = \$40 - \$4 = \$36

Finding other Percentages & Discounts

The same process is used for other percentages. This eBook includes finding 50%, 25%, 1%, 0.5% and over 100%. Students should find these quite straightforward, provided they have successfully completed the earlier, easier examples.

The following ideas are used to help calculate these harder percentages:

50% is the same as one half

- A 50% discount is the same as finding one half.
- 25% is equal to one quarter or fourth.
- Applying a 25% discount is done by finding one quarter or fourth, then subtracting it from the original price.
- 100% is the whole amount.
- Multiples of 100% are multiples of the original amount.
- 200% is double, 300% is three times, etc.
- 150% is the same as adding one half to the original.
- Percentages can be added to the original amount.
- 200% increase results in tripling the original amount.
- 1% is one hundredth. Find this by moving every digit two places to the right.
- 0.5% is half of one percent.

Expressing one Quantity as a Percentage of Another

The last section of this eBook includes some challenging questions involving percentages. Students will have to recognise the common fraction that expresses the relative two sizes of two numbers, then write that as a percentage. For example:

[____%] of 80 = 20 20 = one fourth of 80; one fourth = 25%, so 25% of 80 = 20



Check Up Tests Markbook

There are 4 or 5 Check Up Tests in this eBook. Enter students' scores and times below to keep track of their progress.

	Check		Check		Check		Check		Check			
Student	U	рA	U	рВ	U	рC	U	рD	U	рE	Total	Comments

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	Check		Check		Check		Check		Check				
Student	Up A		Up B		Up C		Up D		Up E		Total	Comments	



Standard Worksheets



Standard Worksheets

Standard Worksheets are designed for use by the majority of students in a regular class.

Suggested Uses:

- 1. Use one worksheet per day for four days a week, followed by a Check-Up sheet on the tenth day, once per two weeks. This program will take 10 weeks in total, after which the majority of students should know the arithmetic facts they have been practising.
- 2. Use a Checkup sheet to discover your students' strengths and weaknesses. Use a targeted approach to customize each student's program, providing each student with a selection of Standard Worksheets which match that student's needs.

Note: Answer keys for all worksheets are in the Answer Keys Section of this eBook.

Bring It On!	Percentages
Name: Score:	Percent: 1[A]
PROFESSOR PETE'S CLASSROOM Common to % 50%	25%+dis 10% 50% inc 1% 0.5% Revision %+dis 100+% 100+% inc Adv percent
Percent:Percent means "out of 100 parts" ("cent" refers to 100; thinkA percent is a number-it is a fraction, as it is a number of p 60% is 60 out of 100. It is equal to the commonCommon and decimal fractions can be written as percentage 0.34 or $\frac{34}{100}$ can be written as 330	<pre>x 100c = a dollar) arts out of 100. on fraction $\frac{60}{100}$ and the decimal fraction 0.60 or 0.6 ges. Of course in common fractions it is easiest if the 34 %</pre>
Convert these percents to common fractions	Convert these percents to decimals
¹⁾ 50 % = ⁶⁾ 5 % =	¹¹⁾ 25 % = ¹⁶⁾ 9 % =
²⁾ 34 % = ⁷⁾ 48% =	$^{12)}$ 15 % = $^{17)}$ 2 % =
³⁾ 75 % = ⁸⁾ 10 % =	¹³⁾ 20 % = ¹⁸⁾ 68 % =
⁴⁾ 67 % = ⁹⁾ 1 % =	¹⁴⁾ 70 % = ¹⁹⁾ 11 % =
⁵⁾ 18 % = ¹⁰⁾ 95% =	¹⁵⁾ 39 % = ²⁰⁾ 99 % =
Convert these common fractions to percents	Convert these decimals to percents
$\frac{21}{100} = $ 26) $\frac{66}{100} = $	$^{31)}$ 0.26 = $^{36)}$ 0.27 =
²²⁾ $\frac{16}{100} = $ 27) $\frac{45}{100} = $	$^{32)}$ 0.48 = $^{37)}$ 0.89 =
$\frac{23}{100} = $ $\frac{28}{100} = $ $\frac{55}{100} = $	$^{33)}$ 0.13 = $^{38)}$ 0.80 =
$\frac{24}{100} = $ $\frac{29}{100} = $	$^{34)}$ 0.03 = $^{39)}$ 0.98 =
25) $\frac{15}{100} =$ 30) $\frac{5}{100} =$	$^{35)}$ 0.09 = 40) 0.44 =
Comparing fractions:	Insert <, > or =
Change mixed numbers to improper then compare. e.g: 14^{-5} 13	¹⁾ $\frac{16}{6}$ $\frac{3}{6}$ ⁵⁾ $3\frac{1}{4}$ $\frac{14}{4}$
$4\overline{5}$ $\overline{5}$	2) $\frac{1}{4}$ $\frac{1}{3}$ 6) $\frac{5}{3}$ $\frac{5}{4}$
Convert any fractions with different denominators to the same denominator, <u>6</u>	3) $\frac{11}{4}$ $\frac{7}{6}$ 7 $3\frac{1}{4}$ $\frac{11}{4}$
then compare. $\frac{3}{6}^{12} \leq \frac{7}{12}$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$

This worksheet is part of the Professor Pete's Classroom eBook "Bring It On! Percentages Worksheets". The recommended teaching sequence is shown in the bar at the top of this sheet. Have the students record their time taken to complete the page.

Score:

Name:

Percentages

Percent: 1[B]

PROFESSOR PETE'S CLASSROOM Comr] 10%+dis 25%+dis non to % 50%+dis 10	10% 50% inc 00+% 100+% inc	1% 0.5% Revision Adv percent	
Convert these percents to common fractions Convert these percents to decimals				
$^{1)}$ 55% = 6%	= 11) 22 %	′о	6 % =	
²⁾ $33\% = $ ⁷⁾ 42%	= 19 %	ю́ = ¹⁷⁾	8% =	
$^{3)} 7\% = $ $^{8)} 12\%$	= ¹³⁾ 29 %	ю́ = ¹⁸⁾	61 % =	
$^{4)} 60\% = $ $^{9)} 4\%$	= ¹⁴⁾ 75 %	′ю = ¹⁹⁾	13 % =	
⁵⁾ 11% = ¹⁰⁾ 99%	= 15) 35 %	′о́ = ²⁰⁾	91 % =	
Convert these common fractions to pe	ercents Convert the	ese decimals to perce	nts	
21) $\frac{58}{100} = $ 26) $\frac{62}{100}$	= 31) 0.20	O = ³⁶⁾	0.29 =	
22) $\frac{97}{100} =$ 27) $\frac{40}{100}$	= 0.4	1 = 37)	0.81 =	
23) $\frac{7}{100} = $ 28) $\frac{58}{100}$	= ³³⁾ O	= 38)	0.75 =	
$\frac{24}{100} = $ $\frac{29}{100} = $	= 34) 0.09	9 = ³⁹⁾	0.10 =	
25) $\frac{13}{100} =$ 30) $\frac{1}{100}$	= 35) 0.02	2 = 40)	0.42 =	
Insert <, > or =				
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\frac{1}{6}$ ⁷⁾ $4\frac{1}{4}$	$-\frac{14}{4}$ 10) $\frac{3}{4}$	$\frac{3}{4} = \frac{12}{5}$	
$\begin{array}{c} 2) \frac{5}{12} \frac{1}{6} 5) 2\frac{4}{8} \frac{1}{6} 5 2\frac{4}{8} \frac{1}{6} 5 2\frac{4}{8} \frac{1}{6} \frac{1}{6} 5 1 1 1 1 1 1 1 1 1$	<u>22</u> 8) <u>13</u> <u>5</u> <u></u>	$\frac{11}{5}$ 11) $\frac{3}{5}$	$\frac{3}{5} = \frac{14}{6}$	
³⁾ $1\frac{4}{9}$ $\frac{14}{9}$ ⁶⁾ $\frac{2}{9}$ $\frac{2}{3}$	$\frac{2}{3}$ 9) $\frac{2}{5}$ $\frac{8}{5}$	<u>3</u> 12) <u>1</u>	$\frac{10}{4} - \frac{4}{3}$	
Addition rainbow pairs to 10	Subtractio	Subtraction rainbow pairs to 10		
13)+ 8 = 10 18) 8 +	_= 10 23) 10 -	6 = 28) 1	0 - 5 =	
14) 10 + = 10 19) 4 + 6	= 24) 10 -	8 = 29) 1	10 - 6 =	
15) 6 + = 10 20) 9 + 1	= 25) 10 -	3 = 30) 1	0 - 4 =	
16)+ 4 = 10 21) 7 +	_= 10 26) 10 -	7 = 31) 1	10 - 1 =	
17)+ 9 = 10 22)+ 9	5 = 10 27) 10 -	5 = 32) 1	10 - 2 =	

This worksheet is part of the Professor Pete's Classroom eBook "Bring It On! Percentages Worksheets". The recommended teaching sequence is shown in the bar at the top of this sheet. Have the students record their time taken to complete the page.

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Percentages

Name:	Score:		Percent: 1[C]
PROFESSOR PETE'S	% Intro10%+disCommon to %50%	25%+dis 10% 50% inc %+dis 100+% 100+%	1% 0.5% Revision inc Adv percent
Convert these percents to	common fractions	Convert these percents to dec	imals
¹⁾ 82 % =	⁶⁾ 9 % =	¹¹⁾ 21 % = ¹⁶⁾	2 % =
²⁾ 38 % =	⁷⁾ 36 % =	$^{12)}$ 71 % = $^{17)}$	1 % =
³⁾ 5% =	⁸⁾ 18 % =	$^{13)}$ 28 % = ¹⁸⁾	60 % =
⁴⁾ 69 % =	⁹⁾ 8% =	¹⁴⁾ 33 % = ¹⁹⁾	12 % =
⁵⁾ 13 % =	¹⁰⁾ 93 % =	¹⁵⁾ 50 % = ²⁰⁾	96 % =
Percent: With decimal fractions, take 0.6	care to convert tenths to hundris 0.60 or 60%	edths before converting to a percer	nt.
Convert these common fra	actions to percents	Convert these decimals to per	cents
21) $\frac{40}{100} =$	26) $\frac{60}{100}$ =	$^{31)}$ 0.23 = $^{36)}$	0.21 =
22) $\frac{91}{100} =$	$\frac{27}{100} =$	$^{32)}$ 0.42 = $^{37)}$	0.8 =
²³⁾ $\frac{2}{100} =$	$\frac{51}{100} =$	³³⁾ 0.04 = ³⁸⁾	0.71 =
²⁴⁾ $\frac{88}{100} =$	29) $\frac{16}{100} =$	³⁴⁾ 0.03 = ³⁹⁾	0.12 =
$\frac{25}{100} = $	30) $\frac{8}{100} =$	³⁵⁾ 0.9 = ⁴⁰⁾	0.43 =
Insert <, > or =			
$\frac{1}{12} - \frac{4}{6}$	³⁾ $\frac{2}{3} - \frac{1}{3}$	⁵⁾ $\frac{2}{3} = \frac{10}{4}$ ⁷⁾	$\frac{6}{4} = \frac{2}{3}$
²⁾ 4 $\frac{1}{6}$ <u>25</u> <u>6</u>	⁴⁾ $\frac{1}{3} = \frac{2}{9}$	⁶⁾ $\frac{2}{5} = \frac{3}{10}$ ⁸⁾	$\frac{4}{6} = \frac{8}{12}$
Addition revision 9) 10 + 7 =	13) 5 + 4 =	Subtraction revision17) $15 - 7 = 21$)7-3=
10) 1 + 5 =	14) 4 + 7 =	18) 10 - 7 = 22) 13 – 8 =
11) 1 + 4 =	15) 1 + 6 =	19) 17 - 9 = 23) 11 – 5 =
12) 3 + 5 =	16) 5 + 9 =	20) 18 - 9 = 24) 12 – 5 =

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Score:

Percentages

Name:

Percent: 1[D]

PROFESSOR PETE'S CLASSROOM Common to % 50%	25%+dis 10% 50% inc 1% 0.5% Revision %+dis 100+% 100+% inc Adv percent				
Convert these percents to common fractions Convert these percents to decimals					
¹⁾ 85 % = ⁶⁾ 3 % =	¹¹⁾ 25 % = ¹⁶⁾ 7 % =				
²⁾ 33 % = ⁷⁾ 31 % =	$^{12)}$ 70 % = $^{17)}$ 3 % =				
³⁾ 10 % = ⁸⁾ 14 % =	$^{13)}$ 20 % = ¹⁸⁾ 64 % =				
⁴⁾ 61 % = ⁹⁾ 5 % =	$^{14)}$ 31 % = ¹⁹⁾ 11 % =				
⁵⁾ 18 % = ¹⁰⁾ 91 % =	¹⁵⁾ 57 % = ²⁰⁾ 93 % =				
Convert these common fractions to percents	Convert these decimals to percents				
21) $\frac{47}{100} =$ 26) $\frac{70}{100} =$	$^{31)}$ 0.73 = $^{36)}$ 0.26 =				
22) $\frac{94}{100} =$ 27) $\frac{45}{100} =$	$^{32)}$ 0.12 = $^{37)}$ 0.7 =				
²³⁾ $\frac{6}{100} =$ ²⁸⁾ $\frac{52}{100} =$	$^{33)}$ 0.06 = $^{38)}$ 0.21 =				
²⁴⁾ $\frac{86}{100} =$ ²⁹⁾ $\frac{19}{100} =$	$^{34)}$ 0.08 = $^{39)}$ 0.1 =				
25) $\frac{12}{100} = $ 30) $\frac{7}{100} = $	$^{35)}$ 0.01 = 40) 0.9 =				
Insert <, > or =					
¹⁾ $4\frac{5}{6} - \frac{45}{6}$ ⁴⁾ $\frac{2}{3} - \frac{2}{3}$	⁷⁾ $\frac{2}{4} = \frac{9}{4}$ ¹⁰⁾ $\frac{14}{3} = \frac{14}{3}$				
²⁾ $2\frac{1}{3}$ $\frac{8}{3}$ ⁵⁾ $\frac{4}{12}$ $\frac{1}{6}$	⁸⁾ $\frac{2}{3} = \frac{3}{4}$ ¹¹⁾ $\frac{11}{4} = \frac{9}{5}$				
³⁾ $\frac{6}{9} = \frac{2}{12}$ ⁶⁾ $4\frac{1}{9} = \frac{37}{9}$	⁹⁾ $\frac{6}{4} = \frac{13}{5}$ ¹²⁾ $\frac{3}{4} = \frac{6}{4}$				
Addition revision $120.9 \pm 4.7 = 120.2 \pm 0.7 = 120.2 \pm 0.$	Subtraction revision				
130 + 4 - 200 = 100 + 4 = 200 = 200 = 100 = 20	23712 - 0 - 20712 - 3 - 20712 - 20712 - 20712 - 3 -				
15) 4 + 9 = 20) 5 + 8 =	25) 14 - 6 = 30) 8 - 6 =				
16) 8 + 7 = 21) 4 + 4 =	26) 5 - 3 = 31) 10 - 6 =				
17) 10 + 7 = 22) 1 + 9 =	27) 7 - 3 = 32) 16 - 9 =				

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Name:	Score:	Converting	g Common Fractions to Percent: 2 [A]		
CLASSROOM	'S % Intro Commo	10%+dis on to % 50%	25%+dis 10% 50% inc 1% 0.5% Revision %+dis 100+% 100+% inc Adv percent		
Converting Common Fractions to Percent, Percent to Common Fractions: Converting a common fraction to a percent requires the fraction to have a denominator of 100. e.g. $\frac{3}{4} = -\frac{9}{4}$ convert the denominator to hundredths $\frac{3}{4}\frac{25}{100} = 25\%$ When converting percents back to a common fraction, simplify the fraction. $60 \% = \frac{60}{100}\frac{3}{5}$					
Convert these common	fractions to perc	ents:	Convert these percents to simplified common fractions:		
1) $\frac{1}{20} = \frac{1}{100} = \frac{1}{100}$	$\frac{6}{10} = \frac{5}{100}$	<u></u> =	¹¹⁾ 10% = $\frac{16}{100}$ = $\frac{16}{50\%}$ = $\frac{100}{100}$ = $\frac{100}{100}$		
²⁾ $\frac{2}{10} = \frac{100}{100} = \frac{100}{100}$	$\frac{7}{125} = \frac{1}{100}$, =	¹²⁾ 20% = $\frac{17}{100}$ = ¹⁷⁾ 75% = $\frac{100}{100}$ =		
³⁾ $\frac{1}{5} = \frac{1}{100} = -$	$\frac{8}{20} = \frac{2}{100}$, =	¹³⁾ $15\% = \frac{18}{100} = 18$		
4) $\frac{1}{2} = \frac{1}{100} = $	$\frac{9}{25} = \frac{5}{1}$	00	¹⁴⁾ $25\% = \frac{100}{100} = \frac{19}{5\%} = \frac{19}{100} = \frac{19}{100} = \frac{19}{100} = \frac{19}{100} = \frac{100}{100} = \frac{100}{1$		
5) $\frac{1}{50} = \frac{1}{100} =$	$\frac{10}{4} = \frac{1}{1}$	00	¹⁵⁾ $2\% = \frac{20}{100} = \frac{20}{100} 80\% = \frac{100}{100} = \frac{100}{100}$		
Adding and Subtract e.g. with regrouping	ting Vertically:		Subtract the fractions (regroup one whole where necessary)		
$ \begin{array}{r} 3 \frac{6}{9} \\ + 1 \frac{7}{9} \\ \frac{4 \frac{13}{9}}{4 \frac{13}{9}} 5 \end{array} $		4 12 9	$ \begin{array}{c} {}^{1)} 8\frac{1}{3} {}^{2)} 4\frac{2}{4} {}^{3)} 9\frac{1}{4} \\ - 7\frac{2}{3} {}^{-3\frac{3}{4}} {}^{-5\frac{3}{4}} \\ - 9\frac{1}{4} \\ - 9$		
Insert <, > or =					
4) $\frac{1}{6} - \frac{1}{3}$	6) <u>1</u> <u>4</u> <u>9</u>		⁸⁾ $\frac{10}{6} = \frac{15}{6}$ ¹⁰⁾ $\frac{3}{5} = \frac{4}{3}$		
⁵⁾ $\frac{4}{9}$ <u>3</u>	7) $\frac{4}{6} - \frac{4}{9}$		⁹⁾ $\frac{4}{3}$ $\frac{1}{3}$ ¹¹⁾ $1\frac{4}{6}$ $\frac{11}{6}$		
Addition revision 12) 9 + 4 =	16) 1 + 4 =	=	Subtraction revision 20) 13 - 9 = 24) 12 - 5 =		
13) 3 + 9 =	17) 4 + 9 =	=	21) 12 - 6 = 25) 16 - 9 =		
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	18) 7 + 6 = 19) 7 + 7 =	= =	$\begin{array}{cccccccccccccccccccccccccccccccccccc$		

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Name:

3 20

1)

2)

3)

4)

5)

Percentages **Converting Common Fractions to Percent:** Score: 2 [B] PROFESSOR PETE'S % Intro 10%+dis 25%+dis 10% 50% inc 1% 0.5% Revision CLASSROOM Common to % 50%+dis 100+% 100+% inc Adv percent Convert these common fractions to percents: Convert these percents to simplified common fractions: 11) 15 % = 16) 1 % = 6) $\frac{3}{10} =$ _____ - = = _____ ⁷ $\frac{2}{25}$ = _____ ¹²⁾ 10 % = _____ ¹⁷⁾ 75 % = _____ ⁸⁾ $\frac{11}{20} =$ _____ $^{13)} 60\% = ^{18)} 50\% =$ ¹⁹⁾ 2% = ¹⁴⁾ 25 % = 9) $\frac{4}{25} =$ _____ 20) 80 % =15) 4 % 10) Add the fractions Adding and Subtracting Vertically: e.g. with regrouping 2) $\frac{3}{9}$ $4\frac{12}{9}$ 3 6 5 1) $2\frac{2}{3}$ $3\frac{3}{4}$ $1\frac{7}{10}$

+

+ $1\frac{2}{4}$

 $4\frac{1}{3}$

6 10

+

$4\frac{3}{9}5\frac{4}{9}$ $2\frac{3}{9}$	
Subtract the fractions (change to improper fractions where necessary)	Add the fractions
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c} {}^{7)} & 2\frac{1}{8} & {}^{8)} & 4\frac{3}{9} & {}^{9)} & 3\frac{2}{3} \\ \\ + & 3\frac{2}{8} & + & 3\frac{5}{9} & + & 1\frac{2}{3} \\ \\ \hline \end{array} $
Insert <, > or =	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	¹⁶⁾ $\frac{6}{4} = \frac{15}{6}$ ¹⁹⁾ $3\frac{1}{4} = \frac{14}{4}$
¹¹⁾ $1\frac{6}{9} \ \frac{15}{9}$ ¹⁴⁾ $\frac{8}{3} \ 2\frac{1}{3}$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$

 $2\frac{7}{9}$

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Percentages

Name:	Score:	Convert	ing Common Fractions to Percent: 2 [C
PROFESSOR PETE'	S % Intro Com	10%+dis mon to %	25%+dis 10% 50% inc 1% 0.5% Revision 50%+dis 100+% 100+% inc Adv percent
Convert these common	fractions to pe	rcents:	Convert these percents to simplified common fractions:
1) $\frac{15}{20} = $	6) <u>4</u> =	=	11) 20 % = 16) 4 % =
²⁾ $\frac{3}{20} =$	7 <u>5</u> =	=	$^{12)} 25\% = 17) 50\% =$
³⁾ $\frac{2}{5} = $	8) <u>5</u> =	=	$^{13)}$ 75 % = ¹⁸⁾ 10 % =
4) $\frac{7}{20} = $	9) <u>2</u> =	=	$^{14)}$ 5 % = ¹⁹⁾ 1 % =
5) $\frac{3}{50} =$	10) <u>5</u> =	=	¹⁵⁾ 2 % = ²⁰⁾ 60% =
Subtract the fractions fractions where neces	(change to in sary)	nproper	Add the fractions
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	$5\frac{5}{9}$ 3 $1\frac{6}{9}$	$\frac{8}{6}$ $- 2\frac{5}{6}$	$ \begin{array}{c} {}^{4)} & 5\frac{2}{5} & {}^{5)} & 2\frac{4}{8} & {}^{6)} & 4\frac{6}{8} \\ \\ + & 2\frac{4}{5} & + & 1\frac{7}{8} & + & 2\frac{7}{8} \\ \\ \hline \end{array} $
Insert <, > or =			
7) $\frac{7}{9} = \frac{3}{12}$	10) <u>3</u>	<u>5</u> 6	13) $\frac{4}{5}$ $\frac{4}{3}$ 16) $\frac{7}{4}$ $\frac{1}{6}$
⁸⁾ $3\frac{4}{8} - \frac{22}{8}$	11) <u>1</u>	<u>5</u> 6	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
9) $\frac{4}{6} = \frac{3}{12}$	¹²⁾ <u>7</u>	56	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
Equivalent fractions			
$\begin{bmatrix} 19 \\ -8 \end{bmatrix} \frac{7}{8} = \frac{1}{48} = \frac{1}{16}$	$\frac{21}{8} =$	$\frac{1}{72} = \frac{1}{32}$	${}^{23)} \ \frac{3}{4} = \frac{21}{2} = \frac{2}{20} \qquad {}^{25)} \ \frac{2}{6} = \frac{4}{2} = \frac{3}{36}$
$\frac{20}{4} = \frac{2}{20} = \frac{8}{20}$	$\frac{22}{5} = \frac{4}{5}$	<u>20</u> = <u>8</u>	²⁴⁾ $\frac{2}{4} = \frac{2}{24} = \frac{10}{24}$ ²⁶⁾ $\frac{2}{3} = \frac{2}{6} = \frac{12}{12}$
Revision: Multiply frac $27) \frac{1}{2}$ of 16 =	$\frac{29}{3} \frac{1}{3}$ of 4	ble numbers 45 =	Multiply whole numbers by fractions 31 $16 \times \frac{3}{4} =$ 33 $40 \times \frac{4}{10} =$
²⁸⁾ $\frac{3}{9}$ of 9 =	$^{30)}\frac{3}{7}$ of 4	42 =	$32) 7 \times \frac{2}{7} = 34) 48 \times \frac{3}{6} = $

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Percentages

Name:	Score:	Convertin	g Common Fractic	ons to Percent:	2[D]
CLASSROOM	/S % Intro Com	10%+dis mon to % 50%	25%+dis 10% 50% %+dis 100+%	inc 1% 0.5% 100+% inc Adv p	Revision ercent
Convert these common	n fractions to pe	ercents:	Convert these percents fractions:	to simplified common	1
1) $\frac{8}{20} = $	6) <u>6</u> :	=	11) 30 % =	_ ¹⁶⁾ 5% =_	
²⁾ $\frac{3}{25} =$	$7 \frac{4}{25} =$	=	¹²⁾ 45 % =	40% =	
³⁾ $\frac{3}{5} = $	8) $\frac{7}{20}$ =	=	¹³⁾ 25% =	¹⁸⁾ 80% =	
4) $\frac{6}{20} = $	9) <u>8</u> =	=	¹⁴⁾ 15 % =	¹⁹⁾ 8% =	
5) $\frac{15}{50} = $	10) <u>8</u> =	=	15) 4% =	²⁰⁾ 60% =	
Subtract the fractions fractions where neces	s (change to in ssary)	nproper	Add the fractions		
$ \begin{array}{c} {}^{1)} & 9\frac{2}{5} & {}^{3)} \\ - & 2\frac{4}{5} & - \end{array} $	$6\frac{1}{8}$ - $2\frac{3}{8}$	$\frac{8}{6}^{4}$ - $7\frac{5}{6}$	$ \begin{array}{c} 7 \\ & 3\frac{3}{4} \\ + 4\frac{1}{4} \\ & - \end{array} $	$1\frac{2}{3}$ ¹¹⁾ + $1\frac{2}{3}$ +	$5\frac{6}{10}$ $3\frac{4}{10}$
$ \begin{array}{c} $	$7\frac{2}{5}$ - $3\frac{3}{5}$	$9\frac{3}{8}$ - $8\frac{6}{8}$	$ \begin{array}{c} $	$5\frac{7}{10}$ ¹²⁾ + $5\frac{8}{10}$ +	$5\frac{2}{5}$ $5\frac{2}{5}$
$\begin{array}{c} \text{Insert } <, > \text{ or } = \\ 13) & \frac{10}{12} & \frac{1}{3} \end{array}$	15) <u>5</u> 9	<u>1</u> 6	17) <u>6</u> <u>3</u> 10 <u>5</u>	¹⁹⁾ <u>11</u> <u>10</u> <u>4</u>	
14) $\frac{2}{9} = \frac{2}{3}$	¹⁶⁾ $5\frac{2}{6}$ _	$-\frac{32}{6}$	18) <u>6</u> <u>9</u> 6	²⁰⁾ <u>14</u> <u>8</u> <u>3</u>	
Addition revision 21) 7 + 4 =	25) 1 + 9	=	Subtraction revision 29) 5 - 3 =	33) 6 – 4 =	
22) 3 + 4 =	26) 4 + 5	=	30) 16 - 7 =	34) 13 - 6 = _	
23) 9 + 9 =	27) 8 + 9	=	31) 4 - 2 =	35) 18 - 9 = _	
24) 10 + 9 =	28) 3 + 9	=	32) 13 - 7 =	36) 7 - 5 =	

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Name:	Score:		Percent 10%: 3 [A]
PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis 10% 50% i 5+dis 100+% 10	nc 1% 0.5% Revision 00+% inc Adv percent
Calculating 10% of a quar 10% is one tenth: 10% Remember: Finding 10% is the Each digit moves one place to	ntity: = $\frac{10}{100} = \frac{1}{10}$ e same as dividing the number the right.	eg 10% of 56 = er by 10. H T O. t 5 6 → 5 . 6	5.6
Find 10% of each of these 1) 10% of 20 =	numbers:	6) 10% of 42 =	
2) 10% of 72 =		7) 10% of 24 =	
3) 10% of 41 =		8) 10% of 47 =	
4) 10% of 29 =		⁹⁾ 10% of 35 =	
5) 10% of 54 =		10) 10% of 13 =	
Find 10% of each of these 11) 10% of 987 =	harder examples:	16) 10% of 3 =	
12) 10% of 9 =		17) 10% of 73 =	
13) 10% of 109 =		18) 10% of 865 =	_
14) 10% of 82 =		¹⁹⁾ 10% of 40 =	_
15) 10% of 8 =		20) 10% of 566 =	
Revision: Multiply fraction	s by whole numbers	Revision: Multiply frac $\frac{25}{5}\frac{1}{5}$ of 40 =	tions by whole numbers $^{29)} \frac{1}{7}$ of 42 =
$\frac{210}{5} = \frac{1}{5} = \frac{2}{5}$	$\frac{1}{9}$ of 18 =	$\frac{26}{5} \frac{2}{5} \text{ of } 40 =$	$^{30)} \frac{3}{7}$ of 42 =
$\frac{22}{5} \frac{3}{5}$ of 30 = 2	⁴⁾ $\frac{2}{9}$ of 18 =	$\frac{27}{3}\frac{1}{3}$ of 15 =	$^{31)}\frac{1}{9}$ of 36 =
	9	$\frac{28}{3}\frac{2}{3}$ of 15 =	$\frac{32}{9} \frac{4}{9}$ of 36 =
Insert <, > or =	5) 10 2	27\ 0 0	20) 14 8
$\begin{vmatrix} 33 \\ 12 \\ -2 \\ -3 \\ -3 \\ -3 \\ -3 \\ -3 \\ -3 \\ -$	$\frac{19}{9} - 2\frac{2}{9}$	$\frac{3(1)}{4} = \frac{2}{3}$	$\frac{39}{6} = \frac{8}{3}$
$34) \frac{9}{3} - 3\frac{1}{3}$	6) $\frac{3}{9} - \frac{2}{3}$	³⁸⁾ $1\frac{1}{4}$ <u>10</u>	40) $\frac{6}{4}$ $\frac{2}{3}$

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Percent 10% and 20%: Name: Score: 3 [B] PROFESSOR PETE'S % Intro 10%+dis 25%+dis 10% 50% inc 1% 0.5% Revision CLASSROOM Common to % 50%+dis 100+% 100+% inc Adv percent Find 10% of each of these numbers. To find 20% just double it: 1) 10% of 22 = 6) **20% of 40 =** 2) 10% of 60 = 7) **20% of 60 =** 10% of 51 = 8) 20% of 50 = 3) 4) 10% of 89 = 9) 20% of 300 = 10% of 5 = 10) 20% of 15 = 5) Find 10% or 20% of each of these larger numbers: 11) **10% of 68 =** 16) 20% of 50 = 12) 10% of 323 = 17) 20% of 500 =____ 13) **10% of 8 =** 18) 20% of 200 = 14) 10% of 500 = 19) **20% of 450 =** 15) 10% of 973 = 20) 20% of 3000 = **Revision: Multiply fractions by whole numbers** Multiply whole numbers by fractions ²⁴⁾ $\frac{1}{4}$ of 20 = ²⁷⁾ 40 × $\frac{3}{4}$ = ²¹⁾ $\frac{1}{3}$ of 6 = 30) 35 × $\frac{3}{7}$ = ²²⁾ $\frac{1}{6}$ of 18 = ²⁵⁾ $\frac{1}{6}$ of 42 = ²⁸⁾ 18 × $\frac{2}{6}$ = _____ ³¹⁾ 16 × $\frac{2}{8}$ = $\frac{26}{3} \frac{1}{3}$ of 42 = ³²⁾ 10 × $\frac{3}{10}$ = ²⁹⁾ 18 × $\frac{1}{2}$ = $\frac{23}{4} = \frac{2}{4}$ of 44 = Insert <, > or = ³³⁾ <u>2</u> <u>2</u> <u>3</u> 39) <u>2</u> <u>3</u> $\frac{35}{3} \frac{2}{3} \frac{8}{12}$ 37) $\frac{5}{4}$ $\frac{9}{4}$ ³⁶⁾ $4\frac{2}{3}$ <u>14</u> <u>3</u> 34) <u>7</u> <u>5</u> <u>9</u> $\frac{40}{5} \frac{11}{4}$ $\frac{38}{4} \frac{2}{4} \frac{1}{4}$ Addition revision Subtraction revision 49) 17 - 8 = _____ 41) 10 + 7 = ____ 45) 5 + 4 = ____ 53) 15 – 7 = 42) 1 + 5 = _____ 46) 4 + 7 = 50) 17 - 9 = ____ 54) 11 - 3 = ____ 43) 1 + 4 = 47) 1 + 6 = 51) 9 - 4 = ____ 55) 10 - 2 = ____ 52) 11 - 5 = ____ 56) 8 - 5 = ____ 44) 3 + 5 = 48) 5 + 9 =

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Name: Percent 10% (discount): Score: 3 [C] PROFESSOR PETE'S % Intro 10%+dis 25%+dis 10% 50% inc 1% 0.5% Revision CLASSROOM Common to % 50%+dis 100+% 100+% inc Adv percent **10% Discount Questions** First find 10%. Then take this away from the original amount. How much is an item with a 10% discount? 10% discount off an item priced at \$30 10% of \$30 = \$3 discounted price: 30 - 3 = 27Find 10%, then find the discounted price: 10% of \$20 = \$2 discounted price: 20 - 2 = 181) 10% of \$50 = \$ discounted price: \$ -\$ =\$discounted price: \$_____ = \$_____ 2) 10% of \$40 = \$ 3) 10% of \$80 = \$ discounted price: \$ -\$ =\$discounted price: \$ -\$ =\$4) 10% of \$50 = \$ 10% of \$400 = \$40 discounted price: 400 - 40 = 36010% of \$2 = \$0.20 discounted price: 2 - 0.20 = 1.80Find 10%, then find the discounted price off these harder examples: 10% of \$200 = \$2 discounted price = 200 - 20 = 180discounted price: \$_____- \$____ = \$_____ 5) 10% of \$4 = \$ discounted price: \$_____ - \$____ = \$_____ 6) 10% of \$40 = \$ discounted price: -\$ =\$7) 10% of \$80 = \$ 10% of \$5 = \$ discounted price: \$ -\$ =\$8) Multiply whole numbers by fractions **Revision: Multiply fractions by whole numbers** ⁷⁾ 40 × $\frac{4}{10}$ = ¹⁰⁾ 35 × $\frac{3}{7}$ = ¹⁾ $\frac{2}{3}$ of 27 = 4) $\frac{3}{4}$ of 20 = ⁸⁾ 18 × $\frac{5}{6}$ = ¹¹⁾ 16 × $\frac{2}{8}$ $\frac{5}{6} = \frac{5}{6} = \frac{5}$ 2) $\frac{4}{6}$ of 24 = ¹²⁾ 10 × $\frac{3}{10}$ = ⁶⁾ $\frac{4}{5}$ of 25 = ⁹⁾ 27 × $\frac{2}{9}$ = $\frac{2}{4}$ of 40 = Insert <, > or = 13) $\frac{2}{3} - \frac{9}{12}$ 15) $\frac{1}{3}$ $\frac{5}{6}$ 17) $\frac{10}{6}$ $\frac{2}{3}$ $\frac{19}{3} \frac{8}{3} 2\frac{1}{3}$ $\frac{14}{3} = 2\frac{1}{3}$ 18) $\frac{8}{3} - \frac{5}{6}$ $\frac{20}{4} \frac{3}{4} \frac{43}{4}$ ¹⁶⁾ $5\frac{3}{6} - \frac{34}{6}$

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Name: Percent 10% and 20% (discount): Score: 3 [D] PROFESSOR PETE'S % Intro 10%+dis 25%+dis 10% 50% inc 1% 0.5% Revision CLASSROOM Common to % 50%+dis 100+% 100+% inc Adv percent Find 10% or 20%, then find the discounted price: 1) 10% of \$90 = \$ discounted price: \$____ - \$___ = \$____ discounted price: -\$ =2) 10% of \$70 = \$ 3) 20% of \$50 = \$ discounted price: \$_____ = \$_____ discounted price: \$ -\$ =\$10% of \$10 = \$ 4) discounted price: \$_____ - \$____ = \$_____ 20% of \$40 = \$ 5) Find 10% or 20%, then find the discounted price off these harder examples: discounted price: $\qquad - \qquad = \qquad$ 10% of \$7 = \$ 6) discounted price: \$_____ - \$____ = \$_____ 7) 10% of \$400 = \$ discounted price: -\$ =8) 10% of \$250 = \$ discounted price: \$_____ - \$____ = \$_____ 9) 20% of \$9 = \$ discounted price: -\$ =10) 20% of \$600 = \$ **Revision: Multiply fractions by whole numbers** Multiply whole numbers by fractions ⁷⁾ 24 × $\frac{4}{6}$ = _____ 4) <u>5</u> ¹⁰⁾ 27 × $\frac{6}{9}$ = ¹⁾ $\frac{2}{6}$ of 12 = of 9 = ⁸⁾ 12 × $\frac{1}{6}$ = _____ ¹¹⁾ 30 × $\frac{2}{3}$ = ²⁾ $\frac{5}{6}$ of 6 = ⁵⁾ $\frac{5}{7}$ of 14 = ⁹⁾ 30 × $\frac{4}{5}$ = ¹²⁾ 14 × $\frac{2}{7}$ = ⁶⁾ $\frac{5}{6}$ of 54 = of 48 = Insert <, > or = 13) <u>2</u> 3 17) $\frac{3}{4} = \frac{3}{5}$ 19) $\frac{10}{4}$ _____ $\frac{11}{6}$ $\frac{15}{9} \frac{1}{3}$ <u>4</u> ____6 16) $\frac{2}{3}$ ____ $\frac{11}{12}$ 18) <u>7</u> 3 $\frac{20}{5} = 5 \frac{1}{5} = \frac{26}{5}$ 5 14) 3 $3\frac{1}{3}$ Addition revision Subtraction revision 36) 13 - 9 = 21) 10 + 6 = 31) 18 - 9 = 26) 6 + 8 = 37) 7 – 5 = ____ 27) 7 + 7 = 32) 9 - 7 = 22) 6 + 7 = 33) 13 - 8 = 38) 7 - 2 = 23) 6 + 4 = 28) 5 + 9 = 34) 13 - 6 = 39) 6 - 3 = 24) 6 + 6 = 29) 9 + 9 = 25) 1 + 6 = 30) 10 + 5 = 35) 17 - 8 = 40) 14 - 9 =

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Dring it off.						1 01 0	Sintago
Nar	ne:	Score:			Percent	50%:	4 [A]
3	PROFESSOR PETE'S	% Intro 10%+dis Common to % [s 25%- 50%+dis	+dis 10% 100+%	50% inc 1% (100+% inc	0.5% Adv pe	Revision ercent
Per 50% E.g	cent of numbers: 50 % is the same as a ha . 50% of 68 is the sa	9% lf. me as half of 68 = 3	4 50	% of 300 is 1	the same as ha	alf of 30	0 = 150
Fin 1)	id 50% of each numbe 50% of 50 =	r:	6) 5	0% of 13 =			
2)	50% of 62 =		7) 5	0% of 41 =	:		
3)	50% of 90 =		8) 5	0% of 80 =	:		
4)	50% of 30 =		9) 5	0% of 100	=		
5)	50% of 70 =		10) 5	0% of 28 =			
Fin	d 50% of each of thes	e larger numbers:					
11)	50% of 250 =		16) 5	0% of 860	=		
12)	50% of 700 =		17) 5	0% of 260	=		
13)	50% of 622 =		18) 5	0% of 500	=		
14)	50% of 202 =		19) 5	0% of 1800	=		
15)	50% of 840 =		20) 5	0% of 400	=		
Cor	vert common fraction	is to decimals	Conv	vert mixed nu	Imbers to decim	nals	
21)	$\frac{41}{50} =$	$\frac{26}{20} \frac{12}{20} =$	31)	$4\frac{9}{25} =$	$^{36)}$ $3\frac{4}{5}$; =	
22)	$\frac{8}{25} =$	$\frac{19}{20} =$	32)	$3\frac{12}{20} =$	³⁷⁾ 5 ¹ / ₂	=	
23)	$\frac{23}{50}$ =	$\frac{14}{25} =$	33)	$1\frac{3}{20} =$	$\frac{38}{2}$ $1\frac{8}{2}$	<u>3</u> =	
24)	$\frac{21}{25}$ =	²⁹⁾ $\frac{11}{20}$ =	34)	8 ²² / ₂₅ =	³⁹⁾ 5 ² / ₂	<u>0</u> <u>5</u> =	
25)	$\frac{1}{2} = $	$\frac{1}{25} =$	35)	$4\frac{5}{20} =$	⁴⁰⁾ 6 ⁸ / ₂	<u>3</u> =	
Inse	ert <. > or =						
41)	$\frac{4}{6} = \frac{3}{9}$	$\frac{43}{3} \frac{1}{3} \frac{3}{6}$	45) <u>2</u>	<u>2</u> <u>3</u>	47) <u>16</u> _	<u>8</u> 3	
42)	$\frac{1}{3} = \frac{5}{9}$	$\frac{44}{3} \frac{22}{3} - 7\frac{2}{3}$	46) <u>7</u>	2 <u>3</u>	48) <u>6</u>	$\frac{2}{3}$	

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Name:

Score:

PROFESSOR PETE'S	% Intro 10%+dis Common to % 50	25%+dis 10% 50% ind %+dis 100+% 100	c 1% 0.5% Revision 0+% inc Adv percent
Find 50% of each number $11 50\%$ of 5 =	:	6) 50% of 26 =	
2) 50% of 66 -		$\frac{3}{50\%}$ of $\frac{20}{50\%}$	
2) 50% of 60 -		 i) 50% of 53 ii) 50% of 600 	
3) 50% of 69 =		8) 50% of 90 =	
4) 50% of 66 =		⁹⁾ 50% of 91 =	
5) 50% of 48 =		10) 50% of 45 =	
Find 50% of each of these	larger numbers:		
11) 50% of 18 =		16) 50% of 860 =	
12) 50% of 700 =	_	17) 50% of 260 =	
13) 50% of 622 =	_	18) 50% of 500 =	
14) 50% of 202 =	_	19) 50% of 16000 =	
15) 50% of 8400 =		20) 50% of 40000 =	
Revision: Find 10% of each 21) 10% of 589 =	h of these numbers:	23) 10% of 5 =	
22) 10% of 29 =		24) 10% of 75 =	
Multiply fractions by whole	e numbers	Multiply whole numbers	by fractions
$\frac{25}{3} \frac{2}{3}$ of 12 = ³	⁰⁾ $\frac{3}{4}$ of 16 =	$35)$ 40 × $\frac{5}{10}$ =	$^{40)}$ 42 × $\frac{3}{6}$ =
$\frac{26}{8} \frac{3}{8}$ of 32 = ³	¹⁾ $\frac{1}{5}$ of 40 =	$^{36)}$ 35 × $\frac{2}{5}$ =	⁴¹⁾ 40 × $\frac{3}{5}$ =
$\frac{27}{7} \frac{2}{7}$ of 21 = ³	$\frac{2}{4}$ of 16 =	$37)$ 27 × $\frac{3}{9}$ =	⁴²⁾ 48 × $\frac{1}{4}$ =
$\frac{28}{7} \frac{5}{7}$ of 21 = 3	$\frac{3}{10} \frac{3}{10}$ of 30 =	$^{38)}$ 48 × $\frac{2}{4}$ =	$^{43)}$ 8 × $\frac{1}{4}$ =
²⁹⁾ $\frac{2}{3}$ of 33 = ³	$\frac{4}{10} \frac{4}{10}$ of 50 =	$^{39)}$ 35 × $\frac{6}{7}$ =	⁴⁴⁾ 30 × $\frac{1}{5}$ =
Insert <, > or =			
$45) \frac{4}{6} = \frac{3}{9} 4$	7) $\frac{1}{3} = \frac{3}{6}$	49) $\frac{2}{4}$ $\frac{2}{3}$	51) <u>16</u> <u>8</u> <u>3</u>
$\begin{vmatrix} 46 \end{pmatrix} \frac{1}{3} \ \underline{\qquad} \ \frac{5}{9} \qquad \qquad 4 \\$	$\frac{22}{3}$ _ 7 $\frac{2}{3}$	$\frac{50}{4} \frac{7}{4} - 2\frac{3}{4}$	52) $\frac{6}{4} - \frac{2}{3}$

Name:	Score:		Percent 50%	(discount):	4 [C]
PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis +dis	= 10% 50% inc 100+% 100+	1% 0.5% % inc Adv p	Revision percent
50% discountTaking away 50% is the sHow much is an item with50% discount on an item 50% of $30 = 15$ $30 - 15$ 50% discount on an item 50% of $300 = 150$	same as just finding 50 a 10% discount? \$ \$30 \$ = 15 so just finding half \$ \$300)% of the	e original amour gh as this is the a	it. mount of the di	scount.
Find the new price if there	is a 50% discount:	0) 5			
1) 50% discount off \$66 =	=	6) 5	0% discount off \$	5 =	
2) 50% discount off \$48 =	=	7) 5	0% discount off \$	28 =	
3) 50% discount off \$94 =	=	8) 5	0% discount off \$	36 =	
4) 50% discount off \$29 =	=	9) 5	0% discount off \$	64 =	
5) 50% discount off \$7 =	:	10) 5	0% discount off \$	78 =	
Find the new price if there	is a 50% discount off th	iese larg	er amounts:		
1) 50% discount off \$646	i =	6)	50% discount off	\$360 =	
2) 50% discount off \$404	, =	7)	50% discount off	\$1000 =	
3) 50% discount off \$460) =	8)	50% discount off	\$680 =	
4) 50% discount off \$650	I =	9)	50% discount off	\$85 =	
5) 50% discount off \$25	=	10) 5	0% discount off	\$250 =	
Add the fractions ¹⁾ $3\frac{5}{6} + 1\frac{5}{6} =$		³⁾ $2\frac{3}{4}$	$+ 2\frac{2}{4} =$		
²⁾ $5\frac{2}{3} + 5\frac{1}{3} =$		⁴⁾ 2 ¹ / ₄	$\frac{1}{4} + 2\frac{1}{4} = $		
Insert <, > or =		0) 4	22	11\ 29	
$\frac{0}{12} - \frac{2}{9}$	$2\frac{0}{9} - \frac{25}{9}$	⁹⁾ $4\frac{1}{6}$	<u> </u>	$\frac{10}{3} = 9\frac{1}{3}$	
$\begin{vmatrix} 6 \end{pmatrix} 4\frac{1}{6} - \frac{25}{6} \end{vmatrix} 8$	$\frac{11}{12} - \frac{2}{6}$	10) <u>9</u>	$\frac{7}{3}$	¹²⁾ $\frac{4}{5} - \frac{15}{6}$	

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Name:	Score:		Percent 50%	6 (discount):	4[D]
PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+c 5+dis	dis 10% 50% inc 100+% 100	c 1% 0.5% +% inc Adv p	Revision percent
Find the new price if there	e is a 50% discount:				
1) 50% discount off \$88 :	=	6)	50% discount off	\$7 =	
2) 50% discount off \$24 =	=	7)	50% discount off	\$32 =	
3) 50% discount off \$76 =	=	8)	50% discount off	\$47 =	
4) 50% discount off \$36 =	=	9)	50% discount off	\$54 =	
5) 50% discount off \$9 =		10)	50% discount off	\$25 =	
Find the new price if there	is a 50% discount off th	nese lar	ger amounts:		
1) 50% discount off \$242	2 =	6)	50% discount of	f \$540 =	
2) 50% discount off \$681	=	7)	50% discount of	f \$2,000 =	
3) 50% discount off \$670) =	8)	50% discount of	f \$505 =	
4) 50% discount off \$264	l =	9)	50% discount of	f \$66 =	
5) 50% discount off \$42	=	10)	50% discount off	\$250 =	
Revision: Find the new pri	ice if there is a 10% disc	ount of	ff these larger am	ounts:	
1) 10% discount off \$400) =	5)	10% discount of	f \$700 =	
2) 10% discount off \$8 =		6)	10% discount of	f \$60 =	
3) 10% discount off \$230) =	7)	10% discount of	f \$900 =	
4) 10% discount off \$100) =	8)	10% discount of	f \$5,000 =	
Convert common fractions	to decimals	Conve	ert mixed numbers	to decimals	
$\begin{pmatrix} 1 \end{pmatrix} \frac{10}{20} = 4$	$\frac{37}{50} =$	7) <u>1</u> 25	<u></u> =	$\frac{10}{20} = \frac{11}{20}$	
$\binom{2}{7} \frac{7}{20} = 5$	$\frac{1}{2} =$	8) 3	, =	$\frac{11}{20} =$	
20	2	20 0) 16		20 <u> </u>	
$\frac{1}{5} = $	$\frac{1}{20} = $	50 10	<u></u>	$\frac{12}{5} = $	
Insert <, > or =					
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	⁵⁾ $2\frac{8}{9} - \frac{25}{9}$	¹⁷⁾ 4	$\frac{1}{6} = \frac{22}{6}$	$\frac{19}{3} \frac{28}{3} - 9\frac{1}{3}$	
$14)$ $4\frac{1}{6}$ $\frac{25}{6}$	6) $\frac{11}{12}$ $\frac{2}{6}$	18) <u>9</u>	$\frac{7}{3}$	20) $\frac{4}{5}$ $\frac{15}{6}$	
	12 0	т -		° — °	

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	Perce	entages
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Name:	Score:		Percent 25%:	5[A]
PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis 10% 50% +dis 100+% 1	% inc 1% 0.5% 00+% inc Adv pe	Revisio ercent
Percent of numbers: 25 25% is one quarter of a n 25% of 36 is the same a Finding 25% of a number E.g. 25% of 76 = ? (Remember to find a qua 25% of 76: balf of 76 is 2	% number. Is one quarter of 36 = 9 er is the same as dividin rter of a larger number yo 38. balf of 38 is 19	ng by 4. ou have to halve and th	nen halve again.)	
Eind 25% of each of these	50, 11411 01 50 15 15			
1) 25% of 8 =	e numbers.	6) 25% of 44 =		
2) 25% of 80 =		7) 25% of 24 =		
³⁾ 25% of 40 =		8) 25% of 60 =	-	
4) 25% of 12 =		9) 25% of 20 =		
5) 25% of 32 =		10) 25% of 56 =		
Find 25% of each of these 11) 25% of 200 = 12) 25% of 600 = 13) 25% of 880 = 14) 25% of 48 = 15) 25% of 840 = Revision: Multiply fraction	e larger numbers: ns by whole numbers	 16) 25% of 120 =		
$\frac{21}{10} \frac{7}{10}$ of 10 =	$^{25)} \frac{4}{9} \text{ of } 9 = $	$^{29)}$ 42 × $\frac{2}{7}$ =	$33) 32 \times \frac{5}{8} = $	
²²⁾ $\frac{1}{3}$ of 21 =	$\frac{7}{10}$ of 40 =	(30) 48 × $\frac{1}{3}$ =	$^{34)}$ 18 × $\frac{6}{9}$ =	
²³⁾ $\frac{2}{5}$ of 30 =	$\frac{27}{5}$ of 45 =	³¹⁾ 6 × $\frac{1}{2}$ =	$^{35)}$ 30 × $\frac{9}{10}$ =	
²⁴⁾ $\frac{7}{8}$ of 8 =	$\frac{28}{9} \frac{5}{9}$ of 27 =	³²⁾ 56 × $\frac{5}{8}$ =	$36) 32 \times \frac{1}{2} =$	
Insert <, > or =				
$\begin{vmatrix} 37 \end{pmatrix} \frac{2}{3} = \frac{8}{12}$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	⁴¹⁾ $5\frac{2}{3} - \frac{17}{3}$	$\frac{43}{3} = \frac{4}{3}$	
³⁸⁾ <u>8</u> <u>2</u> <u>3</u>	40) $\frac{1}{6}$ $\frac{6}{9}$	⁴²⁾ $\frac{28}{5}$ 5 $\frac{4}{5}$	$\frac{44}{6} \frac{15}{6} - 2\frac{3}{6}$	
This word also at its most of the Desferre	- Detale Ole			

Name:

Score:

Percent 25%: 5 [B]

ê	PROFESSOR PETE'S	% Intro 10%+dis Common to % 50	25%+dis 10% 50% inc %+dis 100+% 100+% inc	1% 0.5% Revisio Adv percent
Fin	d 25% of each of these	numbers:		
1)	25% of 28 =		6) 25% of 96 =	
2)	25% of 16 =		7) 25% of 100 =	
3)	25% of 36 =		8) 25% of 64 =	
4)	25% of 72 =		9) 25% of 48 =	
5)	25% of 84 =		10) 25% of 50 =	
Fin	d 25% of each of these	larger numbers:		
11)	25% of 200 =		16) 25% of 120 =	
12)	25% of 600 =		17) 25% of 900 =	
13)	25% of 880 =		18) 25% of 640 =	
14)	25% of 44 =		19) 25% of 432 =	
15)	25% of 840 =		20) 25% of 40 =	
Fine	d 10% of each of these	larger numbers:		
21)	10% of 40 =		24) 10% of 600 =	
22)	10% of 533 =		25) 10% of 75 =	
23)	10% of 709 =		26) 10% of 2 =	
Sub	otract the fractions			
27)	$8\frac{2}{4}$ ²⁸⁾ 7-	$\frac{6}{10}$ ²⁹⁾ $7\frac{3}{5}$	$9\frac{1}{3}$ $31)$ $8\frac{8}{10}$	$^{32)}$ 9 $\frac{1}{6}$
	$-2\frac{3}{4}$ -7	$\frac{3}{10}$ – $3\frac{4}{5}$	$-2\frac{2}{3}$ $-1\frac{9}{10}$	$-7\frac{5}{6}$
	<u> </u>	<u> </u>		
	ert <, > or =		20) 14 7 40) 4	
33)	$\frac{7}{12} = \frac{4}{6}$	$\frac{2}{3} = \frac{4}{9}$	$\frac{38}{6} - \frac{14}{4} = \frac{7}{6} = \frac{42}{6}$	$\frac{1}{2} - \frac{1}{4}$
34)	$\frac{2}{9} = \frac{10}{12}$ 3	$\frac{11}{3}$ _ $3\frac{2}{3}$	40) $\frac{4}{6} = \frac{2}{5}$ 43) $\frac{6}{5}$	<u> </u>
35)	$\frac{3}{12} = \frac{1}{3}$ 3	$\frac{2}{6} = \frac{1}{3}$	$ \begin{array}{c} 41) & \frac{7}{5} & \frac{4}{5} \end{array} $ $ \begin{array}{c} 44) \\ 44) \end{array} $	$4\frac{3}{5} = \frac{22}{5}$

Percent 25% (discount): Name: Score: 5[C] PROFESSOR PETE'S % Intro 10%+dis 25%+dis 10% 50% inc 1% 0.5% Revisio CLASSROOM Common to % 50%+dis 100+% 100+% inc Adv percent **25% Discount Questions** First find 25%. Then take this away from the original amount. How much is an item with a 25% discount? 25% discount on an item priced at \$80 \$80 - \$20 = \$60 25% of \$80 = \$20 25% discount on an item \$320 25% of \$320 = \$80 \$320 - \$80 = \$240 Find the new price if there is a 25% discount: 1) 25% discount off \$60 = 6) 25% discount off \$8 = 25% discount off \$100 = 7) 25% discount off \$16 = 2) 25% discount off \$40 = 8) 25% discount off \$36 = 3) 4) 25% discount off \$88 = 9) 25% discount off \$24 = 5) 25% discount off \$20 = 10) 25% discount off \$32 = Find the new price if there is a 25% discount off these larger amounts: 1) 25% discount off \$200 = _____ 6) 25% discount off \$120 = 25% discount off \$600 = 7) 25% discount off \$1,000 = 2) 3) 25% discount off \$880 = 8) 25% discount off \$640 = 25% discount off \$800 = 9) 25% discount off \$400 = 4) 5) 25% discount off \$40 = 10) 25% discount off \$8,000 = Multiply fractions by whole numbers Multiply whole numbers by fractions ⁷⁾ 40 × ¹⁰⁾ 10 × $\frac{8}{10}$ = $\frac{2}{3}$ of 45 = $\frac{1}{8}$ 1) 4) of 24 = = ¹¹⁾ 32 × $\frac{1}{2}$ = 8) of 12 = of 8 = 15 × ¹²⁾ 28 × $\frac{2}{7}$ = $\frac{4}{5}$ of 30 = 6) 9) $6 \times \frac{1}{3} =$ of 16 = Insert <, > or = 13) <u>4</u> 9 15) $\frac{5}{6}$ $\frac{8}{12}$ 17) <u>1</u> <u>3</u> ¹⁹⁾ $3\frac{1}{4}$ $\frac{31}{4}$ 14) 2____ 18) <u>4</u> 6 20) <u>1</u> <u>3</u> $\frac{16}{9} \frac{46}{9} - 5\frac{1}{9}$ $\frac{5}{4}$

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Nar	ne:	Score:	Percent 25%	6 (discount):	5[D]
Í	PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis 10% 50% ii 5+dis 100+% 100	nc 1% 0.5% +% inc Adv pe	Revisio ercent
Fin	d the new price if there	e is a 25% discount:			
1)	25% discount off \$60	=	6) 25% discount off	\$8 =	
2)	25% discount off \$100) =	7) 25% discount off	\$16 =	
3)	25% discount off \$40	=	8) 25% discount off	\$36 =	_
4)	25% discount off \$88	=	9) 25% discount off	\$24 =	_
5)	25% discount off \$20	=	10) 25% discount off \$	\$32 =	_
Fin	d the new price if there	e is a 25% discount off th	nese larger amounts:		
1)	25% discount off \$200) =	6) 25% discount of	f \$120 =	
2)	25% discount off \$600) =	7) 25% discount of	f \$1,000 =	
3)	25% discount off \$880) =	8) 25% discount of	f \$4,000 =	
4)	25% discount off \$32	=	9) 25% discount of	f \$40,000 =	
5)	25% discount off \$1	=	10) 25% discount of	f\$10 =	
Re	vision: Find the new pr	ice if there is a 10% disc	ount off these larger amo	ounts:	
1)	10% discount off \$450) =	5) 10% discount of	f \$300 =	
2)	10% discount off \$6 =		6) 10% discount of	f \$30 =	
3)	10% discount off \$240) =	7) 10% discount of	f \$9,000 =	
4)	10% discount off \$2,0	00 =	8) 10% discount o	ff \$150 =	
Mu	Itiply fractions by whole	e numbers	Multiply whole numbers	by fractions	
1)	$\frac{2}{10}$ of 10 =	$\frac{4}{3} = \frac{2}{3}$ of 45 =	$^{7)}$ 48 × $\frac{3}{6}$ =	¹⁰⁾ 20 × $\frac{4}{10}$ =	
2)	$\frac{5}{8}$ of 32 =	⁵⁾ $\frac{2}{5}$ of 25 =	⁸⁾ 49 × $\frac{3}{7}$ =	¹¹⁾ 34 × $\frac{1}{2}$ =	
3)	$\frac{2}{9}$ of 9 =	⁶⁾ $\frac{5}{10}$ of 40 =	⁹⁾ 7 × $\frac{4}{7}$ =	¹²⁾ 50 × $\frac{4}{5}$ =	
Ins	ert <, > or =				
13)	$\frac{13}{12}$ _ $1\frac{3}{12}$ ¹	⁵⁾ $\frac{19}{9}$ 1 $\frac{8}{9}$	17) <u>1</u> <u>9</u> <u>4</u>	$\frac{19}{6} - 2\frac{2}{6}$	
14)	$\frac{4}{9} = \frac{7}{12}$ 1	6) $\frac{2}{3} = \frac{2}{6}$	18) <u>9</u> <u>6</u> <u>5</u>	20) $\frac{11}{6} = \frac{5}{3}$	

This worksheet is part of the Professor Pete's Classroom eBook "Bring It On! Percentages Worksheets". The recommended teaching sequence is shown in the bar at the top of this sheet. Have the students record their time taken to complete the page.

Bring It On!			Perc	entages
Name:	Score:	Per	cent 100%+:	6[A]
PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis 10% 50% ind %+dis 100+% 100	c 1% 0.5% I+% inc Adv pe	Revision ercent
Percent of numbers: 1 100% is the whole num	00% ber.			
100% of 45 is 45; it's e Finding 200% is all of	asy! it multiplied by 2.			
E.g. 200% of 30; is 2 : 300% of 50; is 3 x 50 =	x 30 = 60 = 150			
Find 100% or greater of	each of these numbers:	6) 100% of 67 -		
2) 200% of 80 =		7) 200% of 24 =	_	
$\frac{2}{3}$ 100% of 78 =	_	8) 600% of 20 =	_	
4) 300% of $70 =$	_	9) 500% of 20 =	-	
5) 200% of 32 =	_	10) 800% of 6 =	_	
150% is 100%+ 50% so 150% of 40 = ?	40 + ½ of 40 = 60			
Find 150% of each of th 11) 150% of 200 =	ese larger numbers:	16) 150% of 120 =		
12) 150% of 600 =		17) 150% of 300 =	_	
13) 150% of 80 =	_	18) 150% of 100 =		
14) 150% of 40 =	_	19) 150% of 30 =	_	
¹⁵⁾ 150% of 200 =		20) 150% of 50 =	-	
Revision: Multiply fraction	ons by whole numbers	Multiply whole numbers	by fractions	
$\frac{21}{4}$ of 8 =	$\frac{24}{9} \frac{6}{9} \text{ of } 45 =$	$\frac{27}{30} \times \frac{9}{10} =$	$\frac{30}{49} \times \frac{3}{7} =$	
²²⁾ $\frac{1}{5}$ of 25 =	²⁵⁾ $\frac{1}{6}$ of 12 =	²⁸⁾ 20 × $\frac{5}{10}$ =	³¹⁾ 40 × $\frac{3}{4}$ =	
$\frac{23}{7} \frac{5}{7}$ of 14 =	$\frac{26}{10} \frac{5}{10}$ of 10 =	$^{29)}$ 16 × $\frac{2}{4}$ =	³²⁾ 36 × $\frac{4}{9}$ =	
Insert <, > or = 33) 2 8	35) <u>10 1</u>	³⁷⁾ 5 ² <u>17</u>	39) <u>2</u> <u>4</u>	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	$38) \frac{28}{5} - 5\frac{4}{5}$	$3 - 3$ $40) \frac{15}{6} - 2\frac{3}{6}$	

Name:

Score:

Percent 100%+: 6 [B]

	PROFESSOR PETE'S	% Intro Common	10%+dis 2 to % 50%+d	25%+dis is 1	10%	50% inc 100+% i	1% 0.5% inc Ad	Revision v percent
Fin	d 100% or greater of ea 100% of 90 =	ch of these	numbers:	100%	of 85 :	=		
2)	200% of 5 =		10) 200%	of 45 :	=		
3)	200% of 62 =		11) 1,000	% of 65	; =		
4)	100% of 83 =		12) 500%	of 30 =	=		
5)	300% of 50 =		13) 100%	of 86 :	=		
6)	500% of 600 =	_	14) 1,000	% of 43	. =		
7)	1,000% of 8 =	-	15) 100%	of 59 :	=		
8)	500% of 51 =		16) 700%	of 20 :	=		
Fin	150% of each of thes	e larger nun	ושביים זאפיים	1500/	of 50			
18)	150% of $500 =$	_	24	150%	of 40			
10)	150% of $500 =$	_	20	150%	of 200			
19)	150% of 4 =	_	20	150%	of C =			
20)	$150\% \text{ of } 4 = _$		27) 150%	0 0 =			
21)	$150\% \text{ of } 2 = _$		28) 150%	of 40 :	=		
22)	150% of 60 =		29) 150%	of 800	=		
23)	150% of 600 =		30) 150%	of 1000) =	_	
Sub frac	otract the fractions (cha ctions where necessary	nge to impro	oper A	dd the f	ractions			
31)	$9\frac{6}{12}$ ³²⁾ 5	<u>4</u> 33)	$9\frac{1}{2}$ 3	⁴⁾ 1	<u>6</u> 3	⁵⁾ 3-	<u>3</u> 36)	<u>4</u> ²
	$-4^{\frac{9}{9}} -4$	<u>5 </u>	$8^{\frac{3}{2}}$. 5	8 1	. 54	4 2	6 5
	<u>'12</u> '	6	<u> </u>	+ 5	8	+ 5-2		5 <u>-</u>
Equ	vivalent fractions							
37)	$\frac{1}{2} = \frac{6}{2} = \frac{5}{2}$	$\frac{3}{5} = \frac{36}{5}$	$=\frac{40}{3}$	$\frac{3}{5}$ =	$\frac{10}{10} = \frac{2}{10}$	<u>1</u> 40)	$\frac{1}{2} = \frac{6}{2}$	= 18

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Percentages

Name:		

Score:

Percent 100%+: 6 [C]

ê	PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis 10% 50% inc %+dis 100+% 100	+% inc Adv percent
Fin	d 100% or greater of	each of these numbers:		
1)	100% of 82 =		9) 500% of 8 =	-
2)	200% of 60 =		10) 200% of 50 =	_
3)	300% of 100 =		11) 300% of 70 =	_
4)	1,000% of 20 =		12) 600% of 10 =	_
5)	100% of 46 =		13) 1,000% of 3 =	
6)	200% of 45 =		14) 200% of 20 =	_
7)	200% of 200 =		15) 600% of 8 =	_
8)	300% of 800 =		16) 300% of 40 =	_
Fin	d 150% of each of the	ese larger numbers:		
17)	150% of 300 =		24) 150% of 50 =	_
18)	150% of 500 =		25) 150% of 40 =	_
19)	150% of 600 =		26) 150% of 200 =	
20)	150% of 4 =	_	27) 150% of 6 =	_
21)	150% of 2 =	_	28) 150% of 40 =	_
22)	150% of 60 =		29) 150% of 800 =	
23)	150% of 600 =		³⁰⁾ 150% of 1000 =	
Rev	vision: Multiply fraction	ons by whole numbers	Multiply whole numbers	by fractions
31)	$\frac{2}{3}$ of 21 =	$\frac{34}{3} \frac{2}{3}$ of 12 =	$^{37)}$ 45 × $\frac{4}{9}$ =	$\frac{40}{12} \times \frac{2}{3} =$
32)	$\frac{8}{9}$ of 9 =	$^{35)}\frac{2}{4}$ of 36 =	$^{38)}$ 36 × $\frac{3}{4}$ =	⁴¹⁾ 14 × $\frac{3}{7}$ =
33)	$\frac{2}{4}$ of 40 =	$^{36)} \frac{2}{10}$ of 20 =	³⁹⁾ 24 × $\frac{1}{3}$ =	⁴²⁾ 27 × $\frac{2}{3}$ =
Inse	ert <, > or =			
43)	$\frac{6}{9} = \frac{1}{6}$	$\frac{45}{5}$ $\frac{15}{5}$ _ 2 $\frac{4}{5}$	47) $\frac{4}{6}$ $\frac{8}{3}$	49) <u>1</u> <u>6</u> <u>4</u>
44)	$\frac{5}{6} = \frac{8}{9}$	46) $\frac{3}{6}$ $\frac{3}{9}$	⁴⁸⁾ $5\frac{3}{5} - \frac{29}{5}$	⁵⁰⁾ <u>16</u> <u>9</u> <u>4</u>

Name:

Score:

Percent 100%+: 6 [D]

Percentages

PROFESSOR PETE'S	% Intro 10%+dis 25%+dis 10% 50% inc 1% 0.5% Revision Common to % 50%+dis 100+% 100+% inc Adv percent
Find 100% or greater of ea	ch of these numbers:
1) 100% of 75 =	9) 300% of 30 =
2) 200% of 80 =	10) 500% of 9 =
3) 300% of 50 =	11) 700% of 60 =
4) 100% of 44 =	12) 300% of 7 =
5) 200% of 60 =	13) 600% of 10 =
6) 1,000% of 5 =	14) 1,000% of 36 =
7) 200% of 90 =	15) 300% of 40 =
8) 500% of 70 =	16) 600% of 20 =
Find 150% of each of these	e larger numbers:
17) 150% of 3 =	24) 150% of 20 =
18) 150% of 500 =	25) 150% of 30 =
19) 150% of 1 =	26) 150% of 4 =
20) 150% of 100 =	27) 150% of 100 =
21) 150% of 40 =	28) 150% of 30 =
22) 150% of 500 =	29) 150% of 80 =
23) 150% of 800 =	30) 150% of 40 =
Subtract the fractions (chai	nge to improper Add the fractions
³¹⁾ o ¹⁰ ³²⁾ o	3^{33} 0 8 34) 5 35) 6 8 36) 5
$0\frac{12}{12}$ 9	$\frac{3}{12}$ $9\frac{12}{12}$ $3\frac{7}{8}$ $3\frac{7}{9}$ $1\frac{3}{9}$
$-1\frac{11}{12}$ $-8\frac{11}{2}$	$\frac{7}{8}$ - $6\frac{10}{12}$ + $2\frac{6}{8}$ + $5\frac{2}{9}$ + $2\frac{7}{9}$
Insert <, > or =	
$\begin{vmatrix} 37 \\ 9 \end{vmatrix} = \frac{9}{12} = 38$	$\frac{4}{6} = \frac{6}{9}$ $\frac{39}{6} = \frac{43}{6} = \frac{27}{6}$ $\frac{40}{5} = \frac{1}{3}$

Percent 10% (increase): Name: Score: 7 [A] PROFESSOR PETE'S % Intro 10%+dis 25%+dis 10% 50% inc 1% 0.5% Revision CLASSROOM Common to % 50%+dis 100+% 100+% inc Adv percent 10% Increase Questions First find 10%. Then add this to the original amount. What is the amount with a 10% increase? 10% increase to \$50 10% of \$50 = \$5 \$50 + \$5 = \$55 10% increase to \$400 10% of \$400 = \$40 \$400 + \$40 = \$440 Find the new price if there is a 10% increase: 1) 10% increase on \$30 = ____ 6) 10% increase on \$70 = 10% increase on \$20 = 7) 10% increase on \$90 = 2) 10% increase on \$40 = 10% increase on \$10 = 3) 9) 10% increase on \$50 = 10% increase on \$80 = 4) 10% increase on \$70 = 5) 10) 10% increase on \$100 = Find the new price if there is a 10% increase on these larger amounts: 10% increase on \$300 = 6) 10% increase on \$700 = 1) 2) 10% increase on \$200 = 10% increase on \$510 = 7) 10% increase on \$450 = 8) 10% increase on \$650 = 3) 10% increase on \$900 = 9) 10% increase on \$250 = 4) 10% increase on \$500 = 10) 10% increase on \$350 = 5) **Revision: Multiply fractions by whole numbers** Multiply whole numbers by fractions 4) $\frac{2}{3}$ of 30 = ¹⁰⁾ 42 × $\frac{5}{8}$ = ⁷⁾ 9 × $\frac{2}{3}$ = 1) $\frac{3}{7}$ of 28 = ⁵⁾ $\frac{3}{4}$ of 36 = ¹¹⁾ 20 × $\frac{1}{5}$ = 8) of 40 =40 × ⁶⁾ $\frac{2}{5}$ of 30 = 81 × $\frac{2}{9}$ ¹²⁾ 36 × $\frac{3}{6}$ = of 35 = lnsert <.> or = $\frac{13}{12} - \frac{1}{3}$ $\frac{15}{9} \frac{19}{9} - 2\frac{2}{9}$ 17) $\frac{2}{4}$ _____ $\frac{2}{3}$ 19) $\frac{14}{6} - \frac{8}{3}$ $\frac{2}{3}$ ¹⁸⁾ 1 ¹/₄ 14) <u>9</u> 3 <u>10</u> 8 $\frac{2}{3}$ $3\frac{1}{3}$

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Nam	e: Score:	Percent 10% (increase): 7 [B]
	CLASSROOM % Intro 10%+dis CLASSROOM Common to % 50%	25%+dis 10% 50% inc. 1% 0.5% Revision %+dis 100+% 100+% inc. Adv percent
Find	the new amount if there is a 10% increase or	n these amounts:
1) 1	10% increase on 50 =	6) 10% increase on 70 =
2) ~	10% increase on 90 =	7) 10% increase on 20 =
3) ~	10% increase on 10 =	8) 10% increase on 60 =
4) ⁻	10% increase on 80 =	9) 10% increase on 40 =
5) 1	10% increase on 30 =	10) 10% increase on 100 =
Find	the new amount if there is a 10% increase or	ו these larger amounts:
1) 1	10% increase on \$300 =	6) 10% increase on \$500 =
2) ~	10% increase on \$25 =	7) 10% increase on \$45 =
3) ~	10% increase on \$360 =	8) 10% increase on \$180 =
4) ⁻	10% increase on \$450 =	9) 10% increase on \$750 =
5) ´	10% increase on \$7,000 =	10) 10% increase on \$2,500 =
Subt fract	ract the fractions (change to improper ions where necessary)	Add the fractions
1)	$8\frac{2}{2}$ ²⁾ $9\frac{7}{42}$ ³⁾ $9\frac{7}{42}$	$4^{(4)}$ $5^{\frac{1}{2}}$ $5^{(5)}$ $5^{\frac{1}{2}}$ $5^{(6)}$ $2^{\frac{2}{2}}$
	2^{1} 7^{8} 8^{8}	\mathbf{J}_4 \mathbf{J}_3 \mathbf{Z}_5
_	$-2_{\overline{3}}$ $-7_{\overline{12}}$ $-8_{\overline{10}}$	$\frac{+ 4\frac{3}{4}}{$
_		
Inse	rt <, > or =	
7) <u>8</u> 9	$\frac{6}{9}$ $\frac{9}{12}$ $\frac{13}{12}$ $1\frac{4}{12}$	¹¹⁾ $4\frac{5}{6} - \frac{29}{6}$ ¹³⁾ $\frac{8}{3} - 2\frac{1}{3}$
8) <u>2</u> 3	$\frac{5}{12}$ 10) $\frac{5}{9}$ $\frac{5}{6}$	¹²⁾ $\frac{8}{3} = \frac{5}{6}$ ¹⁴⁾ $4\frac{3}{4} = \frac{43}{4}$
Equi	valent fractions	
15)	$\frac{2}{4} = \frac{1}{36} = \frac{14}{27}$ ¹⁷⁾ $\frac{1}{3} = \frac{1}{24} = \frac{1}{27}$	¹⁹⁾ $\frac{4}{6} = \frac{1}{24} = \frac{1}{60}$ ²¹⁾ $\frac{2}{3} = \frac{1}{24} = \frac{20}{24}$
16)	$\frac{2}{3} = \frac{2}{9} = \frac{4}{2}$ ¹⁸⁾ $\frac{1}{2} = \frac{8}{14} = \frac{1}{14}$	²⁰⁾ $\frac{2}{5} = \frac{20}{5} = \frac{20}{30} = \frac{22}{3} = \frac{2}{3} = \frac{18}{3} = \frac{8}{30}$

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Bring It On!			Percentages			
Name:	Score:	Percent 50% (inc	rease): 7 [C]			
PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis <u>10% 50% inc</u> 1 5+dis 100+% 100+% inc	% 0.5% Revision Adv percent			
50% Increase QuestionsFirst find 50%. Then addWhat is the amount with a50% increase to \$60 (It is50% of \$60 = \$30 \$60	 50% Increase Questions First find 50%. Then add this to the original amount. What is the amount with a 50% increase? 50% increase to \$60 (It is adding half of the original amount). 50% of \$60 = \$30 \$60 + \$30 = \$90 					
50% increase to \$400 50% of \$200 = \$100 \$2	200 + \$100 = \$300					
Find the new price if there	e is a 50% increase:					
1) 50% increase on \$30	=	6) 50% increase on \$70 =				
2) 50% increase on \$20	=	7) 50% increase on \$90 =				
3) 50% increase on \$50	=	8) 50% increase on \$10 =				
4) 50% increase on \$80	=	9) 50% increase on \$40 =				
5) 50% increase on \$60	=	10) 50% increase on \$100 -	=			
Find the new price if there	e is a 50% increase on th	ese larger amounts:				
1) 50% increase on \$300	0 =	6) 50% increase on \$700) =			
2) 50% increase on \$200	0 =	7) 50% increase on \$500				
3) 50% increase on \$240	0 =	8) 50% increase on \$620	=			
4) 50% increase on \$800	0 =	9) 50% increase on \$4,00	0 =			
5) 50% increase on \$400	0 =	10) 50% increase on \$1,00	0 =			
Revision: Multiply fraction1) $\frac{3}{7}$ of 28 =	$\frac{15 \text{ by whole numbers}}{\frac{3}{5} \text{ of } 45 = _$	Multiply whole numbers by fra ⁷⁾ 9 × $\frac{2}{3}$ = 10) 8	$\frac{\text{ctions}}{8 \times \frac{5}{8}} = \underline{\qquad}$			
²⁾ $\frac{2}{4}$ of 40 =	⁵⁾ $\frac{2}{9}$ of 36 =	⁸⁾ 40 × $\frac{4}{8}$ = ¹¹⁾ 2	$20 \times \frac{1}{5} =$			
$^{3)}\frac{2}{5}$ of 35 =	⁶⁾ $\frac{4}{5}$ of 30 =	⁹⁾ 9 × $\frac{2}{3}$ = ¹²⁾ 3	$36 \times \frac{4}{6} = $			
Insert <, > or =						
$\begin{vmatrix} 13 \end{pmatrix} \frac{1}{12} = \frac{1}{3}$	$\frac{19}{9} - 2\frac{2}{9}$	17) $\frac{2}{4} = \frac{2}{3}$ 19) $\frac{14}{6}$	$\frac{4}{3}$			
$\frac{14}{3} \frac{9}{3} - 3\frac{1}{3}$	16) $\frac{3}{9} = \frac{2}{3}$	¹⁸⁾ $1\frac{1}{4}$ <u>10</u> 20) $\frac{6}{4}$	<u>2</u>			

Name:	Score:	Percent 50% (increase):	7[D]
PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis 10% 50% inc 1% 0.5% H +dis 100+% 100+% inc Adv per	Revision cent
Find the new amount if the	ere is a 50% increase on	these amounts:	
1) 50% increase on \$40	=	6) 50% increase on \$80 =	-
2) 50% increase on \$10	=	7) 50% increase on \$60 =	-
3) 50% increase on \$50	=	8) 50% increase on \$70 =	-
4) 50% increase on \$20	=	9) 50% increase on \$90 =	_
5) 50% increase on \$30	=	10) 50% increase on \$100 =	
Find the new amount if the	ere is a 50% increase on	these larger amounts:	
1) 50% increase on \$200) =	6) 50% increase on \$800 =	
2) 50% increase on \$400) =	7) 50% increase on \$420 =	
3) 50% increase on \$500) =	8) 50% increase on \$6,200 =	
4) 50% increase on \$450) =	9) 50% increase on \$5,000 =	
5) 50% increase on \$900) =	10) 50% increase on \$2,000 =	
Subtract the fractions (cha fractions where necessary	inge to improper ')	Add the fractions	
$^{1)}$ $8\frac{2}{3}$ $^{2)}$ 9	$\frac{7}{12}$ ³⁾ 9 $\frac{7}{10}$	$4^{(4)}$ $5\frac{1}{4}$ $5^{(5)}$ $5\frac{1}{4}$ $5^{(6)}$ 2	$\frac{2}{2}$
$-2^{\frac{3}{1}}$ - 7	$\frac{8}{8}$ - $8\frac{8}{8}$		2
		$+ 4\frac{1}{4}$ $+ 4\frac{1}{3}$ $+ 4$	5
Insert <, > or =			
7) $\frac{8}{9}$ $\frac{6}{9}$ $\frac{9}{9}$	$\frac{13}{12}$ _ $1\frac{4}{12}$	¹¹⁾ $4\frac{5}{6} - \frac{29}{6}$ ¹³⁾ $\frac{8}{3} - 2\frac{1}{3}$	
⁸⁾ $\frac{2}{3} = \frac{5}{12}$ 1	⁰⁾ $\frac{5}{9} = \frac{5}{6}$	¹²⁾ $\frac{8}{3} = \frac{5}{6}$ ¹⁴⁾ $4\frac{3}{4} = \frac{43}{4}$	
Equivalent fractions			
$\begin{vmatrix} 15 \\ 2 \\ 4 \end{vmatrix} = \frac{14}{36} = \frac{14}{14}$	⁷⁾ $\frac{1}{3} = \frac{1}{24} = \frac{1}{27}$	¹⁹⁾ $\frac{4}{6} = \frac{24}{24} = \frac{21}{60}$ ²¹⁾ $\frac{2}{3} = \frac{24}{24} = \frac{2}{24}$	<u>20</u>
¹⁶⁾ $\frac{2}{3} = \frac{1}{9} = \frac{4}{1}$	⁸⁾ $\frac{1}{2} = \frac{8}{14} = \frac{1}{14}$	²⁰⁾ $\frac{2}{5} = \frac{20}{5} = \frac{20}{30} = \frac{22}{3} = \frac{18}{3} = 1$	8

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Percentages

Name:	Score:	Percent 1	00% (increase):	8[A]		
PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis 10% 50 %+dis 100+% [% inc 1% 0.5% 100+% inc Adv p	Revision ercent		
100% Increase Questions 100% is the whole amount. Add this to the original amount. It is really the same as doubling the original amount. What is the amount with a 100% increase? Double it!						
100% increase to \$50 2x \$50 = \$100 (\$50 + \$50))					
100% increase to \$400 2x \$400 = \$800 (\$400 + \$	400)					
Find the new price if there	is a 100% increase:					
1) 100% increase on \$50	=	6) 100% increa	ase on \$70 =			
2) 100% increase on \$20	=	7) 100% increa	ase on \$90 =			
3) 100% increase on \$40	=	8) 100% increa	ase on \$10 =	<u> </u>		
4) 100% increase on \$80	=	9) 100% increa	ase on \$30 =			
5) 100% increase on \$60	=	10) 100% increa	ase on \$100 =	<u> </u>		
Find the new price if there	is a 100% increase on	these larger amounts	:			
1) 100% increase on \$30	0 =	6) 100% incre	ase on \$700 =			
2) 100% increase on \$20	0 =	7) 100% incre	ase on \$550 =	· · · · · · · · · · · · · · · · · · ·		
3) 100% increase on \$46	0 =	8) 100% incre	ase on \$680 =	· · · · · · · · · · · · · · · · · · ·		
4) 100% increase on \$7,5	500 =	9) 100% incre	ase on \$650 =			
5) 100% increase on \$50	0 =	10) 100% increa	ase on \$3,050 =			
Revision: Multiply fractions	s by whole numbers	Multiply whole num	bers by fractions			
¹⁾ $\frac{5}{7}$ of 7 = 4	$\frac{4}{5}$ of 25 =	⁷⁾ 45 × $\frac{1}{5}$ =	¹⁰⁾ 10 × $\frac{1}{2}$ =			
²⁾ $\frac{1}{2}$ of 30 = 5	$\frac{2}{3}$ of 18 =	⁸⁾ 24 × $\frac{1}{2}$ =	¹¹⁾ 30 × $\frac{5}{10}$ =	=		
³⁾ $\frac{2}{4}$ of 16 =	$\frac{4}{7}$ of 35 =	⁹⁾ 30 × $\frac{3}{6}$ =	$\frac{12}{24 \times \frac{5}{6}} =$			
Insert <, > or =						
13) $\frac{1}{6}$ $\frac{1}{9}$ 15	5) <u>10</u> <u>5</u>	17) $\frac{2}{5}$ $\frac{1}{4}$	19) $\frac{1}{4}$ $\frac{7}{5}$			
$^{14)}$ $4\frac{2}{9}$ $\frac{38}{9}$ 16	$\frac{14}{5}$ _ 1 $\frac{4}{5}$	18) $\frac{5}{8} - \frac{10}{4}$	20) $\frac{4}{3} = \frac{3}{5}$			
L						

Nam	e: Score:	Percent 100% (increase): 8 [B]
	ROFESSOR PETE'S% Intro10%+disCLASSROOMCommon to %50	25%+dis 10% 50% inc 1% 0.5% Revision %+dis 100+% 100+% inc Adv percent
Find	the new amount if there is a 100% increase	on these amounts:
1) 1	00% increase on 20 =	6) 100% increase on 70 =
2) 1	00% increase on 90 =	7) 100% increase on 30 =
3) 1	00% increase on 10 =	8) 100% increase on 60 =
4) 1	00% increase on 80 =	9) 100% increase on 40 =
5) 1	00% increase on 50 =	10) 100% increase on 100 =
Find	the new amount if there is a 100% increase	on these larger amounts:
1) 1	00% increase on \$200 =	6) 100% increase on \$400 =
2) 1	00% increase on \$35 =	7) 100% increase on \$800 =
3) 1	00% increase on \$360 =	8) 100% increase on \$180 =
4) 1	00% increase on \$450 =	9) 100% increase on \$5,000 =
5) 1	00% increase on \$700 =	10) 100% increase on \$250 =
Subtr fracti	act the fractions (change to improper ons where necessary)	Add the fractions
1)	$9\frac{3}{2}$ ²⁾ $4\frac{8}{42}$ ³⁾ $9\frac{7}{42}$	$4^{(4)}$ $2^{\frac{7}{2}}$ $5^{(5)}$ $3^{\frac{5}{2}}$ $6^{(6)}$ $5^{\frac{1}{2}}$
	e^{5} 4^{5} e^{8}	2_9 3_9 3_4
_	$\frac{6}{8}$ $- \frac{4}{10}$ $- \frac{6}{12}$	$\frac{+ 4\frac{1}{9}}{$
_		
1 nser 7) <u>3</u>	t <, > or = <u>8</u> 9) <u>4</u> <u>1</u>	11) <u>10 3</u> 13) <u>1</u> <u>24</u>
6	9 6 3	$4 - 5 \qquad 4_6 - 6$
⁸⁾ <u>1</u> 3	$-\frac{2}{6}$ $\frac{10}{3}$ $\frac{2}{9}$	$12) \frac{3}{6} = \frac{6}{5}$ $14) \frac{8}{5} = \frac{1}{3}$
Equiv	valent fractions	
15) <u>2</u> 5	$\frac{12}{5} = \frac{12}{25} = \frac{17}{8} = \frac{17}{8} = \frac{17}{32} = \frac{17}{80}$	¹⁹⁾ $\frac{1}{5} = \frac{8}{-10} = \frac{1}{45}$ ²¹⁾ $\frac{1}{4} = \frac{1}{28} = \frac{1}{16}$
16) 4	$\frac{1}{6} = \frac{1}{10} = \frac{1}{40}$ $\frac{1}{6} = \frac{1}{26} = \frac{1}{10}$	$\frac{20}{8} = \frac{6}{56} = \frac{36}{56}$ $\frac{22}{3} = \frac{3}{26} = \frac{24}{26}$
		0 50 4 50

This worksheet is part of the Professor Pete's Classroom eBook "Bring It On! Percentages Worksheets". The recommended teaching sequence is shown in the bar at the top of this sheet. Have the students record their time taken to complete the page.

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Bring it On:			Percentages				
Name:	Score:	Percent 200+	% (increase):				
PROFESSOR PETE'S	% Intro 10%+dis Common to % 50	25%+dis 10% 50% in %+dis 100+% 10	1% 0.5% Revision 0+% inc Adv percent				
200% Increase Question 200% is double the whol same as multiplying the What is the amount with a whole amount = 3 times th	200% Increase Questions 200% is double the whole amount plus the original amount. It is 200% + 100%. It is really the same as multiplying the original amount by 3. What is the amount with a 200% increase? Multiply it by 3!(200% double the amount + 100% or the whole amount = 3 times the amount)						
200% increase to \$50 3x \$50 = \$150 (\$100 + \$5	0)						
200% increase to \$400 3x \$200 = \$600 (\$400 + \$	200)						
Find the new price if there	e is a 200% increase:						
1) 200% increase on \$10) =	6) 200% increase	on \$80 =				
2) 200% increase on \$40) =	7) 200% increase	on \$70 =				
3) 200% increase on \$20) =	8) 200% increase	on \$50 =				
4) 200% increase on \$60) =	9) 200% increase	on \$30 =				
5) 200% increase on \$90) =	10) 200% increase	on \$100 =				
Find the new price if there	e is a 200% increase on	these larger amounts:					
1) 200% increase on \$30	00 =	6) 200% increase	e on \$600 =				
2) 200% increase on \$20		7) 200% increase	e on \$150 =				
3) 200% increase on \$60		8) 200% increase	e on \$350 =				
4) 200% increase on \$4,	500 =	9) 200% increase	e on \$250 =				
5) 200% increase on \$50	00 =	10) 200% increase	on \$1,000 =				
Revision: Multiply fraction ¹⁾ $\frac{5}{7}$ of 35 =3	s by whole numbers $\frac{3}{4}$ of 36 =	$\begin{bmatrix} \text{Multiply whole number} \\ 5 & 40 \times \frac{2}{5} = \\ \end{bmatrix}$	s by fractions ⁷⁾ 24 × $\frac{2}{3}$ =				
²⁾ $\frac{4}{7}$ of 28 = 4	⁴⁾ $\frac{1}{4}$ of 20 =	⁶⁾ 24 × $\frac{5}{6}$ =	$^{8)}$ 30 × $\frac{1}{5}$ =				
Insert <, > or =							
$9) \frac{9}{12} - \frac{1}{3}$ 1	¹⁾ $\frac{32}{6}$ _ $3\frac{2}{6}$	13) $\frac{2}{3} - \frac{11}{5}$	¹⁵⁾ $\frac{4}{3} = \frac{8}{6}$				
$10) \frac{1}{3} \underline{\qquad} \frac{2}{9} \qquad 1$	2) $\frac{7}{9} = \frac{3}{12}$	¹⁴⁾ $\frac{3}{4} - \frac{6}{5}$	16) $\frac{2}{3} - \frac{2}{4}$				

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Bring it On:				reicentage	
Name:	Score:	F	Percent 20	00+% (incı	rease): 8[D
PROFESSOR PETE'S	% Intro 10%+di Common to %	s 25%+di 50%+dis	s 10% 50 100+%	0% inc 1% 100+% inc	% 0.5% Revisior Adv percent
300% Increase Questions 300% is triple the whole amount plus the original amount. It is 300% + 100%. It is really the same as multiplying the original amount by 4. What is the amount with a 300% increase? Multiply it by 4! (300% double the amount + 100% or the whole amount = 4 times the amount)					
300% increase to \$50 4x \$50 = \$200 (\$150 + \$5	0)				
300% increase to \$400 4x \$200 = \$800 (\$600 + \$	200)				
Find the new price if there	e is a 300% increase):			
1) 300% increase on \$50) =	6)	300% incre	ase on \$60	=
2) 300% increase on \$40) =	7)	300% incre	ase on \$70	=
3) 300% increase on \$20) =	8)	300% incre	ase on \$10	=
4) 300% increase on \$80) =	9)	300% incre	ase on \$30	=
5) 300% increase on \$90) =	10)	300% incre	ase on \$100) =
Find the new price if there	e is a 300% increase	e on these lar	ger amount	s:	
1) 300% increase on \$20	=	6)	300% incre	ease on \$50	0 =
2) 300% increase on \$10	= 00	7)	300% incre	ease on \$22	0 =
3) 300% increase on \$70	00 =	8)	300% incre	ease on \$15	0 =
4) 300% increase on \$3,	500 =	9)	300% incre	ease on \$25	0 =
5) 300% increase on \$40	00 =	10)	300% incre	ase on \$2,0	00 =
Revision: Multiply fraction ¹⁾ $\frac{3}{10}$ of 20 =3	s by whole numbers $\frac{9}{10} = \frac{9}{10}$ of 20 =	s Multiply	y whole nun × $\frac{2}{3}$ =	nbers by frac ⁷⁾ 4	$8 \times \frac{4}{6} = \underline{\qquad}$
²⁾ $\frac{4}{9}$ of 63 =	$\frac{2}{3}$ of 6 =	⁶⁾ 30	$\times \frac{4}{5} = $	⁸⁾ 3	$0 \times \frac{3}{6} =$
Insert <, > or =					
9) $\frac{9}{12}$ $\frac{1}{3}$ 1	¹⁾ $\frac{32}{6}$ _ $3\frac{2}{6}$	13) <u>2</u> <u>3</u>	_ <u>11</u> _ 5	15) <u>4</u> 3	<u>8</u> <u>6</u>
10) $\frac{1}{3} = \frac{2}{9}$ 1	2) $\frac{7}{9} = \frac{3}{12}$	14) <u>3</u>	<u>6</u> 5	16) <u>2</u> <u>3</u> .	<u>2</u> 4



Bring It On!			Perc	entages
Name:		P	ercent 1%, 0.5%:	9[A]
CLASSROOM	% Intro 10%+dis Common to % 50%+	25%+dis 10% 5 His 100+%	0% inc <u>1% 0.5%</u> 100+% inc Adv pe	Revision ercent
1% Questions What is 1% of each of thes	se amounts? 1% is 1/100) of the amount.		
1% of \$500 1% of \$500 = \$5				
1% of \$40 1% of \$40.00 = \$0.40 or 4	0c			
Find 1% of each of these r	າumbers:	6) 10/ of 2100 -		
1) 1% 01 774 =		$\sim 1\% \text{ or } 3192 =$		
2) 1% of 8746 =	-	7) 1% of 480 = $_{-}$		
3) 1% of 705 =		8) 1% of 933 =		
4) 1% of 8 =		9) 1% of 1728 =		
5) 1% of 385 =	1	10) 1% of 94 =		
Find 1% of each of these la	arger or smaller amounts	5:		
1) 1% of \$3,000 =		6) 1% of \$7	7,000 =	
2) 1% of \$20 =		7) 1% of \$	50 =	
3) 1% of \$4,600 =		8) 1% of \$6	60 =	
4) 1% of \$7,500 =		9) 1% of \$8	30,000 =	
5) 1% of \$5,000 =		10) 1% of \$3	30,000 =	
Simplify these fractions	N. 05	40		
$\frac{11}{12} = $	$\frac{25}{40} = $	$\frac{16}{32} =$	$\frac{17}{8} = $	
$\frac{12}{50} = $ 14	$\frac{6}{36} = $	$\frac{16}{15} =$	$\frac{18}{20} =$	
Subtract the fractions (cha	nge to improper	Add the fractions		
19) 8 ² 20)	$\frac{7}{2}$ 21) 0.7	$5\frac{1}{4}$ $5\frac{1}{4}$	5^{3} $5\frac{1}{2}$ $^{24)}$	$2\frac{2}{5}$
0 ₃ 9	12 9 10	+ $4^{\frac{4}{3}}$	$+ 1 \frac{1}{2} +$	$\Lambda^{\frac{5}{2}}$
$-2\frac{-7}{3}$	$\frac{1}{12}$ $- 8\frac{1}{10}$	<u> </u>	<u> </u>	<u>- 5</u>

Name:

Percentages Percent 1%: 9 [B]

PROFESSOR PETE'S	% Intro 10%+dis Common to % 50	25%+dis 10% 50% ind %+dis 100+% 100	the second secon	
Find 1% of each of these	numbers:			
1) 1% of 710 =		6) 1% of 412 =	_	
2) 1% of 30 =		7) 1% of 90 =		
3) 1% of 6 =		8) 1% of 1200 =		
4) 1% of 347 =		9) 1% of 2723 =		
5) 1% of 4 =		10) 1% of 31 =		
Find 1% of each of these I	arger amounts:			
1) 1% of \$3,000 =		6) 1% of \$7,000) =	
2) 1% of \$20,000 =		7) 1% of \$50,00	0 =	
3) 1% of \$4,600 =		8) 1% of \$6,000) =	
4) 1% of \$7,500 =		9) 1% of \$80,00	0 =	
5) 1% of \$5,000 =		10) 1% of \$30,00	0 =	
Simplify these fractions				
$\binom{11}{5}{15} = 13$	$\frac{20}{40} =$	¹⁵⁾ $\frac{4}{6}$ =	$\frac{17}{10} =$	
$\frac{12}{15} = \frac{14}{15}$	$\frac{2}{16} =$	$^{16)}\frac{5}{10} =$	$\frac{18}{24} =$	
Find 50% 100% or 150% (of each of these number	'e '		
19) 50% of 22 =		²⁴⁾ 50% of 850 =	_	
20) 50% of 350 =		25) 50% of 66 =		
21) 50% of 170 =		26) 50% of 470 =	_	
22) 50% of 20 =		27) 50% of 65 =		
23) 50% of 50 =		28) 50% of 4 =		
Povicion: Find 10% of each of these numbers:				
29) 10% of 589 =		31) 10% of 5 =		
30) 10% of 29 =		32) 10% of 75 =		

Bring It On!			Perc	entages
Name:			Percent 0.5%:	9[C]
CLASSROOM	% Intro 10%+dis Common to %	25%+dis 50%+dis 100+	10% 50% inc <u>1% 0.5%</u> +% 100+% inc Adv pe	Revision ercent
0.5% Questions What is 0.5% of each of th	ese amounts? 0.5%	ն is half of 1%. Fir	nd 1% and halve it.	
0.5% of \$800 1% of \$800 = \$8 0.5% 0	f \$800 is \$4.			
0.5% of \$40 1% of \$40.00 = \$0.40 or 4	0c 0.5% of \$40 =	20c		
Find 0.5% of each of these	e amounts:			
1) 0.5% of \$600 =		6) 0.	.5% of \$700 =	
2) 0.5% of \$200 =		7) 0.	.5% of \$900 =	
3) 0.5% of \$100 =		8) 0	.5% of \$400 =	
4) 0.5% of \$800 =		9) 0	.5% of \$500 =	
5) 0.5% of \$300 =		10) 0	.5% of \$1,000 =	_
Find 0.5% of each of these	e larger or smaller a	mounts:		
1) 0.5% of \$3,000 =		6)	0.5% of \$7,000 =	
2) 0.5% of \$20 =		7)	0.5% of \$50 =	_
3) 0.5% of \$4,600 =		8)	0.5% of \$60 =	_
4) 0.5% of \$6,000 =		9)	0.5% of \$80,000 =	
5) 0.5% of \$5,000 =		10)	0.5% of \$30,000 =	
Simplify these fractions				
$1) \frac{4}{16} = $	$\frac{15}{30} =$	$\frac{11}{40} =$	$\frac{16}{60} =$	
²⁾ $\frac{12}{36} = $ ⁷⁾	8 <u>8</u> =	$\frac{12}{20} =$	¹⁷⁾ $\frac{8}{16}$ =	
$3) \frac{10}{15} = $	$\frac{8}{40} =$	$\frac{13}{40} =$	¹⁸⁾ $\frac{4}{12}$ =	
$4) \frac{12}{18} = 9)$	$\frac{18}{30} =$	$\frac{14}{16} =$	$\frac{19}{50} \frac{5}{50} = $	
⁵⁾ $\frac{30}{36} = $ ¹⁰	$\frac{16}{20} =$	$^{15)}\frac{28}{32} =$	$^{20)}\frac{6}{12} =$	

Name:

Percentages Percent 0.5%: 9 [D]

	PROFESSOR PETE'S	% Intro Common	10%+dis to % 50%	25%+dis %+dis 10	10% 50% inc 1% 0 0+% 100+% inc	0.5% Revision Adv percent
Find	1 0.5% of each of the	se amounts:				
1)	0.5% of \$600 =			6)	0.5% of \$700 =	
2)	0.5% of \$200 =			7)	0.5% of \$9,000 =	
3)	0.5% of \$100 =			8)	0.5% of \$4,000 =	
4)	0.5% of \$800 =			9)	0.5% of \$500 =	
5)	0.5% of \$300 =			10)	0.5% of \$1,000 =	
Find	1 0.5% of each of the	se larger or s	maller amou	ints:		
1)	0.5% of \$3,000 =			6)	0.5% of \$7,000 =	
2)	0.5% of \$20 =			7)	0.5% of \$50 =	
3)	0.5% of \$4,600 = _			8)	0.5% of \$60 =	
4)	0.5% of \$6,000 = _			9)	0.5% of \$30,000 =	
5)	0.5% of \$5,000 =			10)	0.5% of \$100,000 =	
Simp	lify these fractions					
1) <u>2</u> 2	$\frac{0}{5} =$	⁵⁾ $\frac{30}{40}$ =		$\frac{9}{40} =$	$\frac{13}{60} =$	
2) <u>4</u> 1	¹ / ₆ =	$\frac{6}{6} =$		$\frac{10}{30} \frac{18}{30} =$	$^{14)}\frac{15}{24} =$	
3) <u>1</u> 2	<u>8</u> =	$\frac{9}{30} =$		$\frac{11}{50} = $	$^{15)}\frac{24}{30} =$	
4) <u>3</u>	<u>0</u> =	$\frac{6}{8} =$		$\frac{12}{30} \frac{20}{30} =$	$^{16)}\frac{6}{30} =$	
Sub	tract the fractions (c	hange to impr	oper	Add the fra	actions	
frac	tions where necessa	ry)				-
17)	8^{2} ¹⁸⁾	o_7 ¹⁹⁾	o_7	²⁰⁾ 5-	$\frac{1}{4}$ $\frac{21}{5}$ $5\frac{1}{2}$	2^{22} $2\frac{2}{5}$
	03	9 <u>12</u>	9 <u>10</u>		4 3 3 1	5
-	$-2\frac{1}{2}$ -	$7\frac{8}{12}$ –	$-8\frac{8}{10}$	+ 4 <u>-</u>	$\frac{1}{4}$ + $4\frac{1}{3}$	+ $4\frac{2}{5}$
-	<u> </u>		10			
-						

Name:	Advanced Percentage: 10 [A]
PROFESSOR PETE'S % Intro 10%+dis CLASSROOM Common to % 50%	25%+dis 10% 50% inc 1% 0.5% Revision %+dis 100+% 100+% inc Adv percent
Expressing one quantity as a percentage of an $\%$ of 60 = 30 Compare 60 and 30. 30 is half of 60 so 30 is 50% 50% of 60 = 30	o of 60.
Find the percent: 1) of $4 = 2$	6) of $300 = 3$
2) of $400 = 400$	7) of $855 = 85.5$
3) of 100 = 25	⁸⁾ of 80 = 20
4) of 100 = 75	9) of 50 = 5
5) of 500 = 50	10) of 389 = 389
Find 1%, 10% or 100% of each of these numbers: 11) 10% of 774 =	16) 1% of 3192 =
12) 1% of 8746 =	17) 1% of 480 =
13) 100% of 705 =	18) 10% of 933 =
14) 100% of 8 =	19) 10% of 1728 =
15) 10% of 385 =	20) 1% of 94 =
Simplify these fractions $^{21)}$ $\frac{6}{12}$ $=$ $^{23)}$ $\frac{25}{40}$ $=$	$\frac{25}{32} = $ $\frac{27}{8} = $
$ \begin{array}{c} 22) \ \underline{20} \ \underline{50} \ = \phantom{100000000000000000000000000000000000$	$\frac{26}{15} = $ $\frac{28}{20} = $
Convert these common fractions to percents	Convert these decimals to percents
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$^{39)}$ 0.25 = 44) 0.39 =
$30) \frac{91}{100} = 35) \frac{56}{100} = $	$^{40)}$ 0.48 = 45) 0.81 =
$31) \frac{7}{100} = $ $36) \frac{50}{100} = $	$^{41)}$ 0.01 = $^{46)}$ 0.72 =
$32) \frac{45}{100} = $ $37) \frac{0}{100} = $	$^{42)}$ 0.08 = 47) 0.11 =
$\begin{array}{c} 33) \frac{10}{100} = \underline{\qquad} \qquad 38) \frac{4}{100} = \underline{\qquad} \end{array}$	$^{43)}$ 0.30 = $^{48)}$ 0.48 =

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Bring It On!

Name:

PROFESSOR PETE'S % Intro 10%+dis CLASSROOM Common to % 50%	25%+dis 10% 50% inc 1% 0.5% Revision %+dis 100+% 100+% inc Adv percent
Find the percent:	
1) of $60 = 30$	6) of 100 = 10
2) of 500 = 50	7) of 5 = 0.5
3) of 30 = 3	8) of 8 = 0.08
4) of 400 = 200	9) of 20 = 1
5) of 400 = 4	10) of 400 = 100
Find 1%, 10% or 100% of each of these numbers:	
11) 100% of 857 =	16) 1% of 5001 =
12) 10% of 79387 =	17) 1% of 7 =
13) 1% of 288 =	18) 10% of 1688 =
14) 1% of 31 =	19) 1% of 16347 =
15) 10% of 85797 =	20) 100% of 392 =
Find the new price if there is a 100% increase on	these larger amounts:
21) 100% increase on \$500 =	26) 100% increase on \$600 =
22) 100% increase on \$750 =	27) 100% increase on \$550 =
23) 100% increase on \$400 =	28) 100% increase on \$60 =
24) 100% increase on \$2,500 =	29) 100% increase on \$1,800 =
25) 100% increase on \$100 =	30) 100% increase on \$6,500 =
Convert these percents to common fractions	Convert these percents to decimals
41) 82 % = 46) 4 % =	⁵¹⁾ 31 % = ⁵⁶⁾ 87 % =
42) 69 % = 47) 8 % =	⁵²⁾ 8 % = ⁵⁷⁾ 44 % =
⁴³⁾ 55 % = ⁴⁸⁾ 12 % =	⁵³⁾ 67 % = ⁵⁸⁾ 60 % =
⁴⁴⁾ 23 % = ⁴⁹⁾ 2 % =	$^{54)}$ 26 % = ⁵⁹⁾ 2% =
45) 20 % = 50) 100 % =	⁵⁵⁾ 99 % = ⁶⁰⁾ 76 % =

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Percentages

10 [B]

Advanced Percentage:

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Bring It On!	Percentages
Name:	Advanced Percentage: 10 [C]
PROFESSOR PETE'S CLASSROOM Common to % 50%	25%+dis 10% 50% inc 1% 0.5% Revision 6+dis 100+% 100+% inc Adv percent
Expressing one quantity as a percentage of an % of 20 = 15 Compare 15 and 20. 15 is three 75% of 20 = 15 Remember: 1/4 = 25%; 3/4 = 75%	nother. quarters of 20 so 15 is 75% of 20. %; 1/5 = 20%; 1/2 = 50%; 1/10 = 10%, 1/100 = 1%
Find the percent: 1) of 100 = 75 2) of 200 = 50 3) of 10 = 2 4) of 10 = 1 5) of 5 = 0.5 Find 1%, 10% or 100% of each of these numbers: 11) 1% of 3 = 12) 10% of 974 = 13) 10% of 55 =	6) of 200 = 150 7) of 400 = 300 8) of 100 = 20 9) of 400 = 80 10) of 200 = 50 16) 10% of 707 = 17) 1% of 5124 = 18) 10% of 2 =
14) 100% of 879 = 15) 10% of 9265 =	19) 100% of 56 = 20) 1% of 5672 =
Simplify these fractions	
$ \begin{array}{c} 21) \ \frac{6}{24} = \underline{ 23} \ \frac{18}{24} = \underline{ 22} \ \frac{24}{30} = \underline{ 24} \ \frac{15}{20} = \underline{ 24} \end{array} $	$ \begin{array}{c} 25) \ \frac{6}{18} = \underline{} \\ 26) \ \frac{8}{24} = \underline{} \\ \end{array} \begin{array}{c} 27) \ \frac{10}{16} = \underline{} \\ 28) \ \frac{21}{30} = \underline{} \\ \end{array} $
Find the missing number: 29) 1% of = 0.04 30) 10% of = 0.6 31) 100% of = 9 32) 50% of = 250 33) 50% of = 10 34) 10% of = 40 35) 1% of = 0.02	Multiply whole numbers by fractions $36)$ $24 \times \frac{2}{8} =$ $41)$ $18 \times \frac{4}{9} =$ $37)$ $48 \times \frac{2}{8} =$ $42)$ $15 \times \frac{1}{3} =$ $38)$ $30 \times \frac{3}{5} =$ $43)$ $8 \times \frac{5}{8} =$ $39)$ $40 \times \frac{1}{8} =$ $44)$ $40 \times \frac{1}{5} =$ $40)$ $48 \times \frac{6}{8} =$ $45)$ $12 \times \frac{3}{6} =$

Find the percent:

3) _____ of 4 = 1

PROFESSOR PETE'S

CLASSROOM

Name:

Advanced Percentage: 10 [D] % Intro 10%+dis 25%+dis 10% 50% inc 1% 0.5% Revision 100+% Common to % 50%+dis 100+% inc Adv percent 1) _____ of 300 = 150 6) _____ of 400 = 100 7) _____ of 800 = 600 2) of 200 = 150 8) of 80 = 60

4) of 6 = 6	9) of $6 = 6$	
5) of 20 = 15	10) of 50 = 10	
Find 1%, 10% or 100% of each of these numbers:	16) 10% of 3018 =	
12) 1% of 6 -	17) 1% of $31 -$	
	(i) $1/8$ of $31 = $	_
13) 10% of 5467 =	18) 10% of 20507 =	
14) 1% of 947 =	19) 100% of 7409 =	
15) 100% of 6598 =	20) 0.5% of 200 =	
Insert <, > or =		
$211 \frac{3}{6} \frac{7}{9}$ $231 \frac{6}{12} \frac{13}{6}$	²⁵⁾ $5\frac{1}{3}$ <u>15</u> <u>3</u>	27) $\frac{11}{5}$ $\frac{4}{3}$
$\begin{array}{c} 22) \ \frac{1}{3} \ \underline{\ } \ \frac{4}{12} \end{array} \qquad \begin{array}{c} 24) \ \frac{47}{10} \ \underline{\ } \ \frac{7}{10} \end{array}$	26) $\frac{3}{5} - \frac{6}{4}$	28) $\frac{3}{6} - \frac{9}{5}$
Simplify these fractions		
Simplify these fractions		
${}^{29)} \frac{6}{24} = \underline{\qquad} {}^{31)} \frac{18}{24} = \underline{\qquad}$	$\frac{33}{18} =$	$(35) \frac{10}{16} =$
$ \begin{array}{c} 29) \underline{6} \\ 24 \\ 30) \underline{24} \\ 30 \\ 30 \\ 30 \\ 30 \\ 30 \\ 30 \\ 30 \\ 30$		
$ \begin{array}{c} 29) \frac{6}{24} = \underline{ 31) \frac{18}{24}} = \underline{ 32) \frac{15}{20}} = \underline{ 510} \\ \end{array} $ Find the missing number:	$ \begin{array}{r} 33) \frac{6}{18} = \\ 34) \frac{8}{24} = \\ \end{array} $ Multiply whole numbers	$ \begin{array}{c} 35) \ \frac{10}{16} = \\ 36) \ \frac{21}{30} = \\ \end{array} $ by fractions
$ \begin{array}{c} 29) \frac{6}{24} = \underline{ 31)} \frac{18}{24} = \underline{ 32)} \frac{15}{20} = \underline{ 37)} 48\% \text{of } \underline{ 2.4} = \underline{ 2.4} \end{array} $	$ \begin{array}{r} 33) \ \frac{6}{18} = \\ 34) \ \frac{8}{24} = \\ \hline \\ \mathbf{Multiply whole numbers} \\ 44) \ 24 \times \frac{2}{8} = \\ \end{array} $	$ \begin{array}{c} 35) \ \frac{10}{16} = \\ 36) \ \frac{21}{30} = \\ \hline \\ \textbf{by fractions} \\ 49) \ 18 \times \frac{4}{9} = \\ \hline \\ \end{array} $
$ \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c}$	$ \begin{array}{r} 33) \ \frac{6}{18} = \\ 34) \ \frac{8}{24} = \\ \hline \\ \mathbf{Multiply whole numbers} \\ 44) \ 24 \times \frac{2}{8} = \\ 45) \ 48 \times \frac{2}{8} = \\ \end{array} $	
$ \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c}$	$ \begin{array}{r} 33) \begin{array}{c} \frac{6}{18} = \\ 34) \begin{array}{c} \frac{8}{24} = \\ \end{array} \end{array} $ $ \begin{array}{r} \textbf{Multiply whole numbers} \\ 44) \begin{array}{c} 24 \times \frac{2}{8} = \\ 45) \end{array} \\ 48 \times \frac{2}{8} = \\ \end{array} \\ \begin{array}{r} 46) \begin{array}{c} 30 \times \frac{3}{5} = \end{array} \end{array} $	
$ \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c}$	$ \begin{array}{r} 33) \begin{array}{c} \frac{6}{18} = \\ 34) \begin{array}{c} \frac{8}{24} = \\ \end{array} \end{array} $ $ \begin{array}{r} \textbf{Multiply whole numbers} \\ 44) \begin{array}{c} 24 \times \frac{2}{8} = \\ 45) \end{array} \\ 48 \times \frac{2}{8} = \\ 45) \begin{array}{c} 48 \times \frac{2}{8} = \\ 46) \end{array} \\ 30 \times \frac{3}{5} = \\ \end{array} $ $ \begin{array}{r} 47) \begin{array}{c} 40 \times \frac{1}{8} = \\ \end{array} \end{array} $	
$ \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c}$	$ \begin{array}{c} 33) \ \frac{6}{18} = \\ 34) \ \frac{8}{24} = \\ \hline \\ \mathbf{Multiply whole numbers} \\ 44) \ 24 \times \frac{2}{8} = \\ 45) \ 48 \times \frac{2}{8} = \\ 45) \ 48 \times \frac{2}{8} = \\ 46) \ 30 \times \frac{3}{5} = \\ 47) \ 40 \times \frac{1}{8} = \\ 48) \ 48 \times \frac{6}{8} = \\ \end{array} $	

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Name:

2)

3)

4)

5)

1)

2)

3)

4)

Percentage Revision: 11 [A] PROFESSOR PETE'S % Intro 10%+dis 25%+dis 10% 50% inc 1% 0.5% Revision CLASSROOM Common to % 50%+dis 100+% 100+% inc Adv percent Find the new price if there is a 10% discount: 1) 10% discount off \$45 = _____ 6) 10% discount off \$9,000 = 10% discount off \$80 = 7) 10% discount off \$4,500 = 10% discount off \$55 = ____ 8) 10% discount off \$10,000 = 10% discount off \$15 = 10% discount off \$3,000 = 9) 10% discount off \$11 = _____ 10) 10% discount off \$1,000 = ____ Find the new price if there is a 50% discount: 50% discount off \$66 = 6) 50% discount off \$5,000 = 50% discount off \$48 = _____ 50% discount off \$280 = 7) 50% discount off \$94 = 8) 50% discount off \$3,600 = _____ 50% discount off \$29 = _____ 9) 50% discount off \$640 =

5) 50% discount of	f \$7 =	10) 50% discoun	it off \$780 =
Insert <, > or =			
1) $\frac{3}{6} - \frac{7}{9}$	³⁾ $\frac{25}{9}$ _ $2\frac{5}{9}$	5) $\frac{8}{5} - \frac{13}{6}$	7) $\frac{2}{3} - \frac{5}{3}$
$\frac{2}{3} \frac{21}{3} - 7\frac{1}{3}$	4) <u>5</u> <u>1</u> <u>3</u>	⁶⁾ $4\frac{5}{6} - \frac{28}{6}$	⁸⁾ $5\frac{5}{6} - \frac{25}{6}$
Simplify these fraction	ons		
$\frac{9}{15} =$	$\frac{11}{15} =$	$\frac{13}{40} =$	$15) \frac{3}{6} =$
$\frac{10}{25} =$	$\frac{12}{20} =$	$\frac{14}{8} =$	$\frac{16}{12} =$
Find the percent:		Find the missing n	umber:

17) of 30 = 3 22) 10% of = 5 18) of 8 = 0.823) 50% of = 2019) of 400 = 200 24) 10% of = 6 25) 100% of = 85 20) of 10 = 2 26) 1% of = 0.56 21) of 80 = 20

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Name:

Percentages Percentage Revision: 11 [B]

	PROFESSOR PETE'S	% Intro 10% Common to %	‰+dis 25%+ 50%+dis	dis 10% 50 100+%	% inc 1% (100+% inc	0.5% Revision Adv percent
Fin	d the new price if there	is a 10% increa	se:			
1)	10% increase on \$65 =	=	6)	10% increase	e on \$700 = _	
2)	10% increase on \$25 =	=	7)	10% increase	e on \$900 = ₋	
3)	10% increase on \$45 =	=	8)	10% increase	e on \$150 = __	
4)	10% increase on \$70 =	=	9)	10% increase	e on \$350 = ₋	
5)	10% increase on \$60 =	=	10)) 10% increase	e on \$1500 =	
Fin	d the new price if there	is a 50% increa	se:			
1)	50% increase on \$66 =	=	6)	50% increase	e on \$700 = _	
2)	50% increase on \$24 =	=	7)	50% increase	e on \$900 = _	
3)	50% increase on \$40 =	=	8)	50% increase	e on \$10,000	=
4)	50% increase on \$84 =	=	9)	50% increase	e on \$3,000 =	
5)	50% increase on \$70 =	=	10)) 50% increase	e on \$100 = _	
Ins	ert <, > or =					
1)	$\frac{3}{6} - \frac{7}{9}$ 3	$\frac{25}{9}$ _ $2\frac{5}{9}$	5) <u>8</u> 5	<u>13</u>	7) <u>2</u> <u>3</u>	$\frac{5}{3}$
2)	$\frac{21}{3}$ _ 7 $\frac{1}{3}$ 4	$\frac{5}{6} = \frac{1}{3}$	⁶⁾ 4	$\frac{5}{6} = \frac{28}{6}$	⁸⁾ 5 ⁵ / ₆	<u>25</u> 6
Sim	plify these fractions					
9)	$\frac{5}{15} =$ 11	$\frac{6}{15} =$	13) <u>16</u> 40	=	$\frac{15}{6} =$	
10)	10 25 = ¹²	$\frac{4}{20} =$	14) 4/8	=	$\frac{16}{12} =$:
Ein	d the nercenti		Eind	the missing pu	mbor	
17)	of 30 = 3		22) 1	0% of =	5	
18)	of 8 = 0.8		23) 5	60% of =	20	
19)	of 400 = 200		24) 1	0% of=	6	
20)	of 10 = 2		25) 1	00% of =	85	
21)	of 80 = 20		26) 1	% of = 0	.56	

Name:

PROFESSOR PETE'S % Intro 10%+dis 25%+dis 10% 50% inc 1% 0.5% Revision CLASSROOM Common to % 50%+dis 100+% 100+% inc Adv percent Find 100% or greater of each of these numbers: 100% of 82 = 9) 500% of 8 = 1) 2) 200% of 60 = 10) 200% of 50 = 300% of 100 = 11) 300% of 70 =3) 12) 600% of 10 = 100% of 20 = 4) 100% of 46 = 13) 100% of 3 = 5) 6) 200% of 45 = 14) 200% of 20 =15) 600% of 8 = 200% of 200 = 7) 300% of 800 = 16) **300% of 40 =** 8) Find 150% of each of these numbers: 17) 150% of 300 = 24) 150% of 50 = 18) 150% of 500 = 25) **150% of 40 =** 26) 150% of 200 = 19) **150% of 600 =** 20) 150% of 4 = 27) **150% of 6 =** 21) **150% of 2 =** 28) 150% of 40 = 29) 150% of 800 = 22) 150% of 60 = 23) 150% of 600 = 30) 150% of 1000 = Simplify these fractions 33) <u>2</u> 6 37) <u>3</u> <u>6</u> $\frac{31}{15} =$ 35) 16 40 $\frac{32}{18} =$ 34) 30 $\frac{36}{8} =$ 38) 6 36 Find the missing number: Find the percent: 39) of 20 = 2 43) 10% of = 40 44) 100% of = 250 40) _____ of 200 = 100 45) 10% of ____ = 50 41) of 3 = 3

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46) 50% of = 450

42) of 500 = 50

Percentages

Percentage Revision: 11 [C]

Name:

Percentage Revision: 11 [D]

	PROFESSOR PETE'S	% Intro 109 Common to %	%+dis 25 % 50%+dis	%+dis	10% 5 100+%	0% inc 100+%	1% 0.5 inc	5% Revision Adv percent
Fin	d the new price if there	is a 10% increa	ase:					
1)	10% increase on \$40	=		6) 10	0% increa	se on \$7	,500 =	
2)	10% increase on \$20 ·	=		7) 10	0% increa	se on \$9	,000 =	
3)	10% increase on \$80 ·	=		8) 10	0% increa	se on \$2	,000 =	
4)	10% increase on \$50 ·	=		9) 10	0% increa	se on \$1	0,000 =	:
5)	10% increase on \$3 =		1	0) 10 ⁰	% increas	e on \$20	,000 =	
Fine	d 1%, 10% or 100% of e	ach of these nu	mbers:					
1)	1% of 3 =		6)	10%	of 707 =	:		
2)	10% of 974 =	-	7)	1% c	of 5124 =	:		
3)	10% of 55 =		8)	10%	of 2 =			
4)	100% of 879 =		9)	100%	of 56 =	:		
5)	10% of 9265 =	_	10)	1% c	of 5672 =	:		
Fin	d 150% of each of these	numbers:						
11)	150% of 300 =	_	18)	150%	of 50 =	:		
12)	150% of 500 =	_	19)	150%	of 40 =	:		
13)	150% of 600 =	_	20)	150%	of 200	=		
14)	150% of 4 =		21)	150%	of 6 =			
15)	150% of 2 =		22)	150%	of 40 =	:		
16)	150% of 60 =		23)	150%	of 800	=		
17)	150% of 600 =	_	24)	150%	5 of 1000) =	_	
Fin	d the percent:		Fir	d the	missing n	umber:		
25)	of 20 = 2		29)	10%	o of	= 40		
26)	of 200 = 100		30)	1009	% of	= 250		
27)	of 3 = 3		31)	10%	of	= 50		
28)	of 500 = 50		32)	50%	o of	= 450		



Checkup Worksheets



Checkup Worksheets

Checkup Worksheets are designed for assessment of students' learning at intervals of two or three weeks.

Note: Answer keys for all worksheets are in the Answer Keys Section of this eBook.

Name:

Check Up A

PROFESSOR PETE'S SCIENCE CLASSROOM Common to % 509	25%+dis 10% 50% inc 1% 0.5% Revision %+dis 100+% 100+% inc Adv percent
Convert these percents to common fractions	Convert these percents to decimals
¹⁾ $40\% = $ ⁶⁾ $7\% = $	¹¹⁾ $25\% = $ ¹⁶⁾ $4\% = $
²⁾ 31% = ⁷⁾ 23% =	12) 12% = 12% = 2% = 17)
$^{3)}$ 5 % = ⁸⁾ 11% =	¹³⁾ 55 % = ¹⁸⁾ 43 % =
⁴⁾ 20% = ⁹⁾ 9% =	¹⁴⁾ $80\% = $ ¹⁹⁾ $10\% = $
⁵⁾ 15% = ¹⁰⁾ 91% =	¹⁵⁾ $39\% = $ ²⁰⁾ $66\% = $
Convert these common fractions to percents	Convert these decimals to percents
$\frac{21}{100} = 26 \frac{30}{100} = 26 \%$	$^{31)}$ 0.40 =% $^{36)}$ 0.19 =%
$\frac{22}{100} = 27 \frac{43}{100} = 27 \frac{50}{100} = 27 \%$	$^{32)}$ 0.85 =% $^{37)}$ 0.35 =%
$\frac{23}{100} = $ % $\frac{28}{100} = $ %	³³⁾ 0 = % ³⁸⁾ 0.25 =%
$\frac{24}{100} = $ % $\frac{29}{100} = $ %	³⁴⁾ 0.08 =% ³⁹⁾ 0.90 =%
$\frac{25}{100} = 20$ % $\frac{30}{100} = 20$ %	³⁵⁾ 0.05 =% ⁴⁰⁾ 0.12 =%
Convert these common fractions to percents:	Convert these percents to simplified common fractions:
41) $\frac{1}{20} = 46$ $\frac{2}{10} = $	$_{51)}$ 10 % = 56) 4% =
42) $\frac{4}{20} = $ 47 $\frac{10}{25} =$	⁵²⁾ 25 % = ⁵⁷⁾ 50 % =
$43) \frac{3}{5} = 48) \frac{3}{20} = $	⁵³⁾ 75 % = ⁵⁸⁾ 5 % =
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	⁵⁴⁾ 1% = ⁵⁹⁾ 2% =
45) $\frac{10}{50} = $ 50) $\frac{25}{50} = $	55) 5% = 60) 60% =
Insert <, > or = revision	
$ \begin{bmatrix} 1 \\ 2 \frac{6}{10} \\ 10 \end{bmatrix} = \frac{24}{10} \qquad \begin{bmatrix} 3 \\ 9 \\ 9 \end{bmatrix} = \frac{2}{3} $	⁵⁾ $\frac{4}{6} = \frac{2}{5}$ ⁷⁾ $4\frac{2}{3} = \frac{13}{5}$
²⁾ $2\frac{5}{9} = \frac{25}{9}$ ⁴⁾ $\frac{2}{6} = \frac{8}{12}$	⁶⁾ $\frac{8}{6}$ $1\frac{1}{4}$ ⁸⁾ $\frac{4}{20}$ $\frac{1}{4}$

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Name:	Check Up B
PROFESSOR PETE'S % Intro 10%+dis CLASSROOM Common to % 50%	25%+dis 10% 50% inc 1% 0.5% Revision 6+dis 100+% 100+% inc Adv percent
Calculating 10% of a quantity:10% is one tenth: $10\% = \frac{10}{100} = \frac{1}{10}$ Remember: Finding 10% is the same as dividing the numbEach digit moves one place to the right.	eg 10% of 56 = 5.6 er by 10. H T O. t 5 6 → 5 . 6
Find 10% of each of these numbers: 1) 10% of 20 = 2) 10% of 72 =	6) 10% of 42 = 7) 10% of 24 =
3) 10% of 41 = 4) 10% of 29 =	8) 10% of 47 = 9) 10% of 35 =
5) 10% of 54 = Find 10% of each of these harder examples:	10) 10% of 13 =
11) 10% of $987 = _$ 12) 10% of $9 = _$ 13) 10% of $109 = _$ 14) 10% of $82 = _$ 15) 10% of $8 = _$	10) 10% of $3^{2} = \ 17) 10% of 73 = \ 18) 10% of 865 = \ 19) 10% of 40 = \ 20) 10% of 566 = \ $
Revision: Multiply fractions by whole numbers 21) $\frac{1}{5}$ of $30 =$ 23) $\frac{1}{9}$ of $18 =$ 22) $\frac{3}{5}$ of $30 =$ 24) $\frac{2}{9}$ of $18 =$	20) 10% of 568 =
Insert <, > or = $33)$ $\frac{1}{12}$ $\frac{1}{3}$ $35)$ $\frac{19}{9}$ $2\frac{2}{9}$ $34)$ $\frac{9}{3}$ $3\frac{1}{3}$ $36)$ $\frac{3}{9}$ $\frac{2}{3}$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$

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Bring It On!

Name:

Percentages

Check Up C

PROFESSOR PETE'S % Intro 10%+dis CLASSROOM Common to %	s 25%+dis 10% 50% inc 1% 0.5% Revision 50%+dis 100+% 100+% inc Adv percent
Find 25% of each of these numbers: 1) 25% of 400 =	6) 25% of 80 =
2) 25% of 1000 =	7) 25% of 700 =
3) 25% of 240 =	8) 25% of 240 =
4) 25% of 16 =	9) 25% of 424 =
5) 25% of 3600 =	10) 25% of 80 =
Find 100% or greater of each of these numbers:	Find the new price if there is a 25% discount:
11) 100% of 45 =	1) 25% discount off \$400 =
12) 200% of 55 =	2) 25% discount off \$800 =
13) 200% of 25 =	3) 25% discount off \$4000 =
14) 300% of 25 =	4) 25% discount off \$1000 =
15) 200% of 350 =	5) 25% discount off \$100 =
Revision: Multiply fractions by whole numbers $ \begin{array}{c} 16) & \frac{7}{10} & \text{of} & 10 = \underline{} & \frac{20}{9} & \frac{4}{9} & \text{of} & 27 = \underline{} \end{array} $	Multiply whole numbers by fractions ²⁴⁾ 10 × $\frac{1}{2}$ = ²⁸⁾ 45 × $\frac{3}{5}$ =
¹⁷⁾ $\frac{1}{3}$ of 21 = ²¹⁾ $\frac{3}{10}$ of 40 =	
¹⁸⁾ $\frac{2}{5}$ of 30 = ²²⁾ $\frac{2}{5}$ of 45 =	
¹⁹⁾ $\frac{7}{8}$ of 16 = ²³⁾ $\frac{5}{9}$ of 27 =	
Insert <, > or =	
$32) 2\frac{2}{3} - \frac{8}{3} \qquad 34) 2\frac{5}{10} - \frac{52}{10}$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
³³⁾ $4\frac{2}{4} \ \underline{16}{4}$ ³⁵⁾ $5\frac{1}{6} \ \underline{30}{6}$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
Convert common fractions to decimals	
$\begin{vmatrix} 40 \\ \frac{41}{50} \\ = \underline{\qquad} \\ 42 \\ \frac{12}{20} \\ = \underline{\qquad} \\ 44 \\ \frac{8}{2}$	$\frac{3}{5} = $ $\frac{46}{20} = $ $\frac{19}{20} = $ $\frac{48}{50} = $
$\begin{vmatrix} 41 \\ \frac{14}{25} = \underline{\qquad} 43 \\ \frac{21}{25} = \underline{\qquad} 45 \\ \frac{1}{2} \end{vmatrix}$	$\frac{1}{0} = $ $\frac{47}{2} = $ $\frac{49}{25} = $

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Name:

Percentages

Check Up D

PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis 10% 50% inc 1% 0.5% Revision %+dis 100+% 100+% inc Adv percent
Find the new price if there	e is a 10% increase:	
1) 10% increase on \$200) =	6) 10% increase on \$500 =
2) 10% increase on \$100) =	7) 10% increase on \$500 =
3) 10% increase on \$480) =	8) 10% increase on \$250 =
4) 10% increase on \$1,0	00 =	9) 10% increase on \$250 =
5) 10% increase on \$400) =	10) 10% increase on \$650 =
Find the new price if there	e is a 50% increase on tl	hese larger amounts:
1) 50% increase on \$300) =	6) 50% increase on \$700 =
2) 50% increase on \$200) =	7) 50% increase on \$500 =
3) 50% increase on \$240) =	8) 50% increase on \$620 =
4) 50% increase on \$800) =	9) 50% increase on \$4,000 =
5) 50% increase on \$300) =	10) 50% increase on \$1,000 =
Find the new price if there	e is a 100% increase on	these larger amounts:
1) 100% increase on \$20	00 =	6) 200% increase on \$800 =
2) 100% increase on \$10	00 =	7) 200% increase on \$500 =
3) 100% increase on \$26	60 =	8) 300% increase on \$1,000 =
4) 100% increase on \$6,	500 =	9) 200% increase on \$900 =
5) 100% increase on \$50	00 =	10) 200% increase on \$5,050 =
Revision: Multiply fraction	s hy whole numbers	Multiply whole numbers by fractions
¹⁾ $\frac{2}{10}$ of 10 =	$\frac{5}{7}$ of 14 =	$11) 6 \times \frac{1}{6} = 16) 25 \times \frac{3}{5} =$
²⁾ $\frac{2}{3}$ of 18 =	$\frac{1}{2}$ of 20 =	¹²⁾ 24 × $\frac{2}{6}$ = ¹⁷⁾ 12 × $\frac{1}{2}$ =
³⁾ $\frac{1}{2}$ of 10 =	$\frac{3}{5}$ of 50 =	$13) 18 \times \frac{5}{6} = 18) 25 \times \frac{1}{5} = 18$
4) $\frac{2}{6}$ of 24 =	$\frac{1}{2}$ of 18 =	¹⁴⁾ 14 × $\frac{3}{7}$ = ¹⁹⁾ 24 × $\frac{2}{8}$ =
⁵⁾ $\frac{2}{7}$ of 14 =1	$\frac{5}{6}$ of 30 =	¹⁵⁾ 27 × $\frac{2}{3}$ = 20) 45 × $\frac{6}{9}$ =

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Name:

Percentages

Check Up E

PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis 10% 50% inc %+dis 100+% 100	c 1% 0.5% Revision +% inc Adv percent
Find 1% of each of these	numbers:	Find 0.5% of each of the	ese amounts:
1) 1% of 30 =		1) 0.5% of \$200 =	
2) 1% of 651 =		2) 0.5% of \$2,000 =	
3) 1% of 15 =		3) 0.5% of \$100 =	
4) 1% of 177 =		4) 0.5% of \$100,000 =	
5) 1% of 6000 =	-	5) 0.5% of \$3,000 =	
Find 1%, 10% or 100% of	each of these numbers:		
6) 1% of 5 =		11) 1% of 8500 =	
7) 1% of 9000 =		12) 10% of 80 =	_
8) 10% of 3 =		13) 1% of 40000 =	
9) 100% of 3572 =		14) 1% of 45 =	
10) 1% of 2022 =		15) 1% of 35 =	
Find the percent:			
¹⁶⁾ of 60 = 48		21) of 2 = 0.02	
17) of 200 = 100		22) of 40 = 4	
18) of 50 = 1		23) of 200 = 100)
19) of 6 = 4.5		24) of 400 = 40	
20) of 80 = 20		²⁵⁾ of 70 = 3.5	
Simplify these fractions			
$\frac{26}{20} \frac{4}{20} =$	$\frac{2}{12} =$	$\frac{36}{48} =$	$\frac{41}{40} =$
$\frac{27}{18} =$	$\frac{10}{15} =$	$\frac{37}{4} =$	$\frac{42}{6} =$
$\frac{28}{18} =$	$\frac{33}{30} \frac{6}{30} = $	$\frac{38}{30} =$	$\frac{43}{15} = $
$^{29)}\frac{4}{8} =$	$\frac{34}{30} =$	$\frac{39}{50} =$	$^{44)}\frac{10}{20} =$
$^{30)}\frac{24}{32} =$	$\frac{35}{60} =$	$\frac{40}{50} =$	$\frac{45}{16} = $

This worksheet is part of the Professor Pete's Classroom eBook "Bring It On! Percentages Worksheets". This Check Up sheet should be used to assess students' progress after completing worksheet 10D.





Homework Sheets



Homework Sheets

Homework Sheets are designed to be sent home at regular intervals for home-based revision of arithmetic facts. Each sheet includes information for parents to briefly explain the learning strategy being adopted in the classroom, so that parents can offer help to their children that is consistent with what is taught at school.

Suggested Uses:

- 1. Use homework sheets for reinforcement of learning in class, by sending matching homework sheets home as each strategy is covered in class.
- 2. Introduce the program of developing fluency in arithmetic facts at a parent evening, open day, or parent-teacher interview, for example. Use the occasion to explain to parents the strategies being adopted in your classroom, and invite parents to assist their child to learn by following the Advice to Parents on each homework sheet.

Note: **Answer keys** for all worksheets are in the Answer Keys Section of this eBook.

Bring It On!	Percentages
Homework	Percent: 1 HW
PROFESSOR PETE'S CLASSROOM Common to % 50%	25% 10% 50% inc 1% 0.5% Revision %+dis 100+% inc 100+% inc Adv percent
Information for Parents: Pe	rcent is a Fraction Out of 100
Percent:Percent means "out of 100" (Cent—100 think 100c in a doll A percent is a number-it is a fraction as it is out of 100. 60% is 60 out of 100. Its fractional equivalent Alternatively fractions can be written as percentages. Of co 0.34 or $\frac{34}{100}$ can be written as 34%	lar) ce is $\frac{60}{100}$ or 0.60 or 0.6 burse in common fractions the denominator must be 100. 0.5 or $\frac{5}{10}$ can be written as 50 %
Convert these percents to common fractions	Convert these percents to decimals
¹⁾ 76% = ⁶⁾ 15% =	¹¹⁾ $39\% = $ ¹⁶⁾ $80\% = $
²⁾ 54 % = ⁷⁾ 1% =	$^{12)}$ 8% = ¹⁷⁾ 78% =
³⁾ 29% = ⁸⁾ 99% =	$^{13)} 60\% = _$ $^{18)} 62\% = _$
$^{4)}$ 7 % = ⁹⁾ 9% =	$^{14)} 19\% = 0\% =$
⁵⁾ 12 % = ¹⁰⁾ 66% =	¹⁵⁾ 91% = ²⁰⁾ 34% =
Convert these common fractions to percents	Convert these decimals to percents
²¹⁾ $\frac{49}{100} =$ <u>26)</u> $\frac{0}{100} =$	$^{31)}$ 0.58 = $^{36)}$ 0.77 =
$\frac{22}{100} = \frac{27}{100} = \frac{5}{100} =$	$^{32)}$ 0.71 = $^{37)}$ 0.11 =
$\frac{23}{100} = \frac{28}{100} = \frac{37}{100} =$	$^{33)}$ 0.02 = $^{38)}$ 0.6 =
$24) \frac{27}{100} = 29) \frac{4}{100} =$	$^{34)}$ 0.09 = $^{39)}$ 0.44 =
25) $\frac{16}{100} =$ 30) $\frac{1}{100} =$	35) 0.4 = 40) 0.47 =
Insert <, > or =	
$1) \frac{2}{3} = \frac{2}{6}$ $4) \frac{1}{9} = \frac{11}{12}$	$\begin{array}{c} 1 \\ 2 \\ 4 \\ -1 \\ 3 \end{array} \qquad \begin{array}{c} 10 \\ 5 \\ 5 \\ -1 \\ 5 \end{array} \qquad \begin{array}{c} 2 \\ 5 \\ 5 \\ -1 \\ 5 \end{array}$
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	8) $\frac{6}{5} = \frac{9}{6}$ 11) $\frac{17}{6} = \frac{2}{6}$
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	9) $\frac{1}{4} = \frac{5}{6}$ 12) $\frac{3}{4} = \frac{1}{3}$

Bring It On!	Percentages			
Homework Convertin	g Common Fractions to Percent: 2 HW			
PROFESSOR PETE'S % Intro 10%+dis CLASSROOM Common to % 50%	25% 10% 50% inc 1% 0.5% Revision +dis 100+% inc 100+% inc Adv percent			
Information for Parents: Conve	rt Common Fractions to Percent			
Common Fractions to Percent, Percent to Common Fractions: Converting a common fraction to a percent requires the fraction to have a denominator of 100. $\frac{3}{4} = -\frac{9}{4}$ convert the denominator to hundredths $\frac{3}{4}\frac{25}{100} = 25\%$				
When converting percent back to a common fraction, simple $60\% = \frac{60}{100}\frac{3}{5}$	ify your fraction.			
Convert these common fractions to percents:	Convert these percents to simplified common fractions:			
1) $\frac{5}{50} = \frac{1}{100} = \frac{6}{10} = \frac{9}{10} = \frac{1}{100} = \frac{1}{100}$	11) $25\% = \frac{16}{100} = \frac{16}{90\%} = \frac{100}{100} = \frac{100}{100}$			
2) $\frac{4}{10} = \frac{7}{100} = \frac{7}{25} = \frac{5}{100} = $	¹²⁾ 5% = $\frac{100}{100}$ = $\frac{17}{75\%}$ = $\frac{100}{100}$ = $\frac{100}{100}$			
³⁾ $\frac{4}{5} = \frac{1}{100} = \frac{8}{100} = \frac{1}{20} = \frac{1}{100} = \frac{1}{100}$	¹³⁾ $15\% = \frac{100}{100} = \frac{18}{100} = \frac{18}{100} = \frac{100}{100} = 10$			
⁴⁾ $\frac{1}{2} = \frac{1}{100} = \frac{9}{100} = \frac{10}{25} = \frac{100}{100} = 100$	¹⁴⁾ $20\% = \frac{100}{100} = \frac{19}{100} = 1$			
5) $\frac{10}{50} = \frac{10}{100} = \frac{10}{10} \frac{1}{4} = \frac{10}{100} = \frac{10}{100}$	¹⁵⁾ 2% = $\frac{100}{100}$ = $\frac{100}{100}$ = $\frac{100}{100}$ = $\frac{100}{100}$ = $\frac{100}{100}$ = $\frac{100}{100}$			
Adding and Subtracting Vertically: e.g. with regrouping	Subtract the fractions (regroup one whole where necessary)			
$3\frac{6}{9}$ $5\frac{3}{9}$ $4\frac{12}{9}$	$ \begin{array}{c} {}^{1)} \\ {}^{7)} \\ {}^{7} \\ {}^{1} \\ {}^{5} \\ {}^{2)} \\ {}^{3)} \\ {}^{3)} \\ {}^{3)} \\ {}^{8} \\ {}^{8} \\ {}^{10} \\ {}^{3)} \\ {}^{3)} \\ {}^{8} \\ {}^{8} \\ {}^{10} \\ {}^{3)} \\ {}^{7} \\ {}^{10$			
$+\frac{1}{9}$ $-\frac{2}{9}$	$- \frac{1\frac{3}{5}}{5} - \frac{2\frac{3}{4}}{4} - \frac{8\frac{5}{10}}{10}$			
$4\frac{15}{9}5\frac{4}{9}$ $2\frac{3}{9}$				
Insert <, > or =	8) 14 14 10) 5 11			
$\frac{1}{12} = \frac{1}{9}$ $\frac{1}{12} = \frac{1}{3}$	$\frac{14}{5} = \frac{14}{6}$ $\frac{10}{6} = \frac{11}{4}$			
$5) \frac{3}{6} - \frac{6}{9}$ $7) \frac{8}{9} - \frac{1}{3}$	9) $\frac{8}{6} = \frac{10}{6}$ 11) $\frac{1}{5} = \frac{1}{3}$			
Addition revision 12) 2 + 9 = 15) 9 + 6 =	Subtraction revision 18) 17 - 8 = 21) 8 - 5 =			
13) 2 + 7 = 16) 1 + 9 =	19) 6 - 2 = 22) 18 - 9 =			
14) 7 + 6 = 17) 9 + 5 =	20) 4 - 2 = 23) 13 - 8 =			

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Bring It On!		Percentages
Homework		Percent 10%: 3 HW
PROFESSOR PETE'S % Intro 10%+dis CLASSROOM Common to % 50%	25%+dis 10% 50% ir %+dis 100+% 10	nc 1% 0.5% Revision 00+% inc Adv percent
Information for Pare	ents: Calculating 10%	
Calculating 10% of a quantity: 10% is one tenth: $10\% = \frac{10}{100} = \frac{1}{10}$ Remember: Finding 10% is the same as dividing the numb Each digit moves one place to the right.	eg 10% of 56 = er by 10. H T O. t 5 6 → 5 . 6	5.6
Find 10% of each of these numbers:		
1) 10% of 20 =	6) 10% of 42 =	
2) 10% of 72 =	7) 10% of 24 =	
3) 10% of 41 =	8) 10% of 47 =	
4) 10% of 29 =	9) 10% of 35 =	
5) 10% of 54 =	10) 10% of 13 =	
Find 10% of each of these harder examples:11)10% of 987 =	16) 10% of 3 =	
12) 10% of 9 =	17) 10% of 73 =	_
13) 10% of 109 =	18) 10% of 865 =	
14) 10% of 82 =	19) 10% of 40 =	
15) 10% of 8 =	20) 10% of 566 =	
Revision: Multiply fractions by whole numbers	Revision: Multiply frac $\frac{25}{4}$ of 24 =	tions by whole numbers $\frac{29}{6} = \frac{3}{6}$ of 6 =
²¹⁾ $\frac{1}{3}$ of 18 = ²³⁾ $\frac{1}{8}$ of 24 =	$\frac{26}{10} \frac{9}{10}$ of 20 =	$\frac{30}{28} = \frac{2}{8} = \frac{16}{16} = \frac{1}{16}$
²²⁾ $\frac{2}{3}$ of 18 = ²⁴⁾ $\frac{3}{8}$ of 24 =	$\frac{27}{5} \frac{3}{5}$ of 15 =	$^{31)}\frac{2}{5}$ of 45 =
	$\frac{28}{4}$ of 28 =	$^{32)} \frac{3}{10} \text{ of } 10 =$
Insert <, > or =		
$\begin{bmatrix} 33 \\ 2 \\ 6 \\ - \\ 9 \\ - \\ 3 \\ 9 \\ - \\ 3 \\ 3 \\ - \\ 3 \\ 3 \\ - \\ 3 \\ 3 \\ - \\ 3 \\ 3$	$^{35)}$ 4 $\frac{1}{3}$ <u>14</u> 3	$\frac{36}{6} = \frac{7}{3}$

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Homework			Percent 50%:	4 HW
PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25% 10% 50% inc 5+dis 100+% inc 100	1% 0.5% R)+% inc Adv perce	levision nt
	Information for Pa	rents: 50% is a Half		
Percent of numbers: 50 50% is the same as a half	% f.			
E.g. 50% of 68 is the sar	me as half of 68 = 34	50% of 300 is the sa	ame as half of 300	= 150
Find 50% of each number 1) 50% of 46 =		6) 50% of 30 =	_	
2) 50% of 22 =		7) 50% of 3 =		
3) 50% of 80 =		8) 50% of 68 =	_	
4) 50% of 48 =		9) 50% of 86 =	_	
5) 50% of 39 =		10) 50% of 24 =	-	
Find 50% of each of these	e larger numbers:			
11) 50% of 120 =	-	16) 50% of 450 =		
12) 50% of 180 =	-	17) 50% of 8100 =		
13) 50% of 408 =	-	18) 50% of 560 =		
14) 50% of 900 =	-	19) 50% of 1000 =		
15) 50% of 780 =	-	20) 50% of 6500 =		
Convert common fractions	s to decimals	Convert mixed numbers	s to decimals	
$21) \frac{4}{5} = $ 2	$\frac{1}{2} =$	$^{31)} 2\frac{4}{5} =$	$1\frac{12}{25} =$	
$\binom{22}{5} = $ 2	$\frac{3}{5} =$	³²⁾ $3\frac{1}{2} =$	$^{37)} 2\frac{19}{25} =$	
$23) \frac{5}{20} = 22$	$\frac{6}{25} =$	$4\frac{9}{10} =$	³⁸⁾ $7\frac{4}{50} =$	
$24) \frac{1}{50} = 2$	$\frac{43}{50} =$	$3^{34)}$ $3\frac{42}{50} =$	³⁹⁾ $6\frac{16}{25} =$	
$25) \frac{24}{25} = $ 3	$\frac{10}{20} =$	$^{35)} 2\frac{3}{20} =$	40) $4\frac{18}{50} =$	
Insert <, > or =		4 <u></u>		
$\begin{vmatrix} 41 \end{pmatrix} \frac{4}{6} = \frac{2}{3}$	$\frac{3}{9} = \frac{3}{6}$	43) <u>12</u> <u>6</u> <u>4</u>	44) <u>10</u> <u>32</u> <u>12</u>	

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Bring It On!

Percentages

Bring It On!	Percentages
Homework	Percent 25%: 5 HW
PROFESSOR PETE'S % Intro 10%+dis CLASSROOM Common to % 50%	25%+dis 10% 50% inc 1% 0.5% Revisio %+dis 100+% 100+% inc Adv percent
Information for Parents: Conve	rt Common Fractions to Percent
Percent of numbers: 25% 25% is one quarter of a number.	
25% of 36 is the same as one quarter of 36 = 9 Finding 25% of a number is the same as dividi	ng by 4.
E.g. 25% of 76=? (Remember to find a quarter of a larger number y 25% of 76: half of 76 is 38, half of 38 is 19	ou have to halve and then halve again.)
Find 25% of each of these numbers:	6) 25% of 12 -
2) 25% of 20 -	7) 25% of $24 =$
2) 25% of $20 = $	() 25% of $24 = $
3) 25% of $40 =$	$\begin{array}{c} \text{(b)} & 25\% \text{ of } 36 = \underline{} \\ \text{(c)} & 25\% \text{ of } 16 = \underline{} \end{array}$
4) 25% of 40 = 5) 25% of 120 =	$\begin{array}{l} 3) 25\% \text{of} 18 - \underline{} \\ 10) 25\% \text{of} 8 = \underline{} \\ \end{array}$
Find 25% of each of these larger numbers:	40 050/ (400
11) 25% of 100 =	16) 25% of 160 =
12) 25% of 400 =	1/) 25% of 8000 =
13) 25% of 8000 =	18) 25% of 200 =
14) 25% of 4000 =	19) 25% of 400 =
15) 25% of 200 =	20) 25% of 2400 =
Revision: Multiply fractions by whole numbers 21) $\frac{1}{2}$ of $16 =$ 25) $\frac{2}{5}$ of $30 =$	Multiply whole numbers by fractions $^{29)}$ 18 × $\frac{2}{3}$ = $^{33)}$ 18 × $\frac{6}{9}$ =
²²⁾ $\frac{1}{3}$ of 27 = ²⁶⁾ $\frac{3}{6}$ of 6 =	³⁰⁾ 15 × $\frac{2}{3}$ = ³⁴⁾ 16 × $\frac{1}{2}$ =
²³⁾ $\frac{1}{3}$ of 36 = ²⁷⁾ $\frac{1}{6}$ of 36 =	³¹⁾ 25 × $\frac{2}{5}$ = ³⁵⁾ 10 × $\frac{9}{10}$ =
²⁴⁾ $\frac{8}{9}$ of 27 = ²⁸⁾ $\frac{1}{2}$ of 12 =	³²⁾ 10 × $\frac{1}{10}$ = ³⁶⁾ 10 × $\frac{1}{2}$ =
Insert <, > or =	
$\begin{bmatrix} 37 \\ 12 \\ 12 \\ 12 \\ 12 \\ 12 \\ 12 \\ 12 \\ 1$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$

Bring It On!			Perc	entages
Homework			Percent 100%+:	6 HW
PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis 10% 50 %+dis <u>100+%</u>	% inc 1% 0.5% 100+% inc Adv pe	Revision ercent
	Information for Par	ents: 100% to 400	%	
Percent of numbers: 10 100% is the whole numb)0% Jer.			
100% of 45 is 45; it's ea Finding 200% is all of it	asy! t multiplied by 2.			
E.g. 200% of 30; is 2 x 300% of 50; is 3 x 50 =	30 = 60 150			
Find 100% or greater of (1) 100% of 62 =	each of these numbers:	6) 400% of 90 =		
2) 200% of 50 =	-	7) 100% of 72 =		
3) 200% of 80 =	-	8) 200% of 55 =		
4) 100% of 41 =	-	9) 300% of 5 =		
5) 300% of 60 =	-	10) 100% of 46 =		
150% is 100%+ 50% so 150% of 40 = ?	40 + ½ of 40 = 60			
Find 150% of each of the 11 , 150% of 44 =	ese larger numbers:	16) 150% of 1 =		
12) 150% of 20 =	-	15) 150% of 1^{-1}		
13) 150% of 2 =	-	18) 150% of 500 =	=	
14) 150% of 10 =	_	19) 150% of 300 =	 	
15) 150% of 80 =	-	20) 150% of 200 =	·	
Revision: Multiply fractio ²¹⁾ $\frac{3}{4}$ of 40 =	$^{24)} \frac{3}{6} \text{ of } 42 = $	Multiply whole num ²⁷⁾ 8 × $\frac{1}{2}$ =	bers by fractions $30)$ 24 × $\frac{3}{8}$ =	
²²⁾ $\frac{1}{5}$ of 40 =	²⁵⁾ $\frac{2}{4}$ of 16 =	²⁸⁾ 49 × $\frac{5}{7}$ =	$^{31)}$ 40 × $\frac{2}{5}$ =	
$\frac{23}{5}$ of 30 =	²⁶⁾ $\frac{3}{5}$ of 15 =	²⁹⁾ 28 × ⁵ / ₇ =	$32) 45 \times \frac{7}{9} = $	
Insert <, > or =				
$\begin{vmatrix} 33 \\ 3 \\ 3 \\ 3 \\ - \\ 6 \end{vmatrix} = \frac{2}{6}$	$\frac{34}{6} = \frac{4}{6}$	$(35) \frac{2}{4} - \frac{5}{3}$	$\frac{36}{6} = \frac{13}{5}$	

Bring It On!			Percentages
Homework		Percent 10% (i	increase): 7 HW
PROFESSOR PETE'S CLASSROOM Con	> 10%+dis 25%+d nmon to % 50%+dis	lis <u>10% 50% inc</u> 100+% 100+% ii	1% 0.5% Revision nc Adv percent
Infor	mation for Parents: 1	.00% to 400%	
10% Increase Questions First find 10%. Then add this to What is the amount with a 10% in	the original amount. acrease?		
10% increase to \$50 10% of \$50 = \$5 \$50 + \$5 = \$5	55		
10% increase to \$400 10% of \$400 = \$40 \$400 + \$40	0 = \$440		
Find the new price if there is a 10	% increase:		
1) 10% increase on \$80 =	6)	10% increase on \$40	=
2) 10% increase on \$20 =	7)	10% increase on \$90	=
3) 10% increase on \$10 =	8)	10% increase on \$50	=
4) 10% increase on \$60 =	9)	10% increase on \$30	=
5) 10% increase on \$70 =	10)	10% increase on \$10	0 =
Find the new price if there is a 10	% increase on these larg	ger amounts:	
1) 10% increase on \$200 =	6)	10% increase on \$80	00 =
2) 10% increase on \$100 =	7)	10% increase on \$50	=
3) 10% increase on \$4000 =		10% increase on \$60	000 =
4) 10% increase on \$8000 = _	9)	10% increase on \$2	500 =
5) 10% increase on \$300 =	10)	10% increase on \$5 [°]	10 =
Revision: Multiply fractions by wh1) $\frac{3}{8}$ of 40 =4) $\frac{4}{6}$ of	Iole numbers Multip 30 = 7) 18	ly whole numbers by $3 \times \frac{5}{9} = $ 10)	$\begin{array}{c} \text{fractions} \\ 24 \times \frac{3}{4} = \underline{} \end{array}$
²⁾ $\frac{3}{8}$ of 48 = ⁵⁾ $\frac{1}{4}$ of	16 = 8) 7	× $\frac{6}{7} = $ 11)	$16 \times \frac{5}{8} =$
3) $\frac{7}{8}$ of 8 = 6) $\frac{5}{8}$ of	8 = 9) 24	$1 \times \frac{2}{3} = $ 12)	27 × $\frac{2}{3}$ =
Insert <, > or =			
$\begin{vmatrix} 13 \\ 9 \\ 9 \\ - \\ 6 \\ - \\ 6 \\ - \\ 14 \\ 1 \\ - \\ 3 \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ -$	2 15) <u>10</u> 12 8	<u>5</u> 16)	$\frac{6}{4} - \frac{9}{6}$

Homework			Percent 1009	% (increase):	8 HW
CLASSROOM	ntro 10%+dis 25 Common to % 50%+dis	%+di	s 10% 50% inc 100+% 100	:1% 0.5% +% incAdv pe	Revision ercent
Int	formation for Parents	: 10	00% to 400%		
100% Increase Questions 100% is the whole amount. Add this to the original amount. It is really the same as doubling the original amount. What is the amount with a 100% increase? Double it! 100% increase to \$50 2x \$50 = \$100 (\$50 + \$50)					
100% increase to \$400 2x \$400 = \$800 (\$400 + \$400)				
Find the new price if there is a 1) 100% increase on \$50 = _	100% increase:	6)	100% increase of	on \$70 =	
2) 100% increase on \$20 = _		7)	100% increase of	on \$90 =	
3) 100% increase on \$40 = _		8)	100% increase of	on \$10 =	
4) 100% increase on \$80 = _		9)	100% increase of	on \$30 =	
5) 100% increase on \$60 = _		10)	100% increase of	on \$100 =	
Find the new price if there is a 1) 100% increase on \$300 =	100% increase on these	e lar 6)	ger amounts: 100% increase	on \$700 =	
2) 100% increase on \$200 =		7)	100% increase	on \$550 =	
3) 100% increase on \$460 =		8)	100% increase	on \$680 =	
4) 100% increase on \$7,500	=	9)	100% increase	on \$650 =	
5) 100% increase on \$500 =		10)	100% increase of	on \$3,050 =	<u>.</u>
Revision: Multiply fractions by1) $\frac{5}{7}$ of 7 =4) $\frac{4}{5}$	whole numbers of 25 = 7	ltiply 45	y whole numbers $\times \frac{1}{5} =$	by fractions ¹⁰⁾ 10 × $\frac{1}{2}$ =	
2) $\frac{1}{2}$ of 30 = 5) $\frac{2}{3}$	of 18 = ⁸⁾	24	$ \frac{1}{2} = $	¹¹⁾ 30 × $\frac{5}{10}$ =	
3) $\frac{2}{4}$ of 16 = 6) $\frac{4}{7}$	of 35 = 9)	30	$\times \frac{3}{6} =$	¹²⁾ 24 × $\frac{5}{6}$ =	
Insert <, > or = 13) $\frac{7}{12}$ $\frac{3}{6}$ 14) $\frac{2}{3}$	<u>4</u> 15)	<u>1</u> 3 _	<u>11</u> 6	16) $\frac{11}{6} - \frac{2}{4}$	

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Bring It On!

Percentages

Bring It On!				Percentages
Homework			Percent 1%	<u> %, 0.5%: 9 Η</u>
PROFESSOR PETE'S	% Intro 10%+dis Common to %	25%+dis 1 50%+dis 100+%	0% 50% inc 19 5 100+% inc	% 0.5% Revision Adv percent
	Information for I	Parents: 1% and	0.5%	
1% Questions What is 1% of each of thes 1% of \$500 1% of \$500 = \$5 1% of \$40 1% of \$40.00 = \$0.40 or 44	se amounts? 1% is 1 0c	/100 of the amour	ıt.	
Find 1% of each of these 1) 1% of 2000 = 2) 1% of 30 = 3) 1% of 2800 = 4) 1% of 2500 =	numbers:	 6) 1% of 50 7) 1% of 10 8) 1% of 90 9) 1% of 40 	00 = 0 = = 00 =	
5) 1% of 9000 =		10) 1% of 30	0 =	
0.5% Questions What is 0.5% of each of th 0.5% of \$800 1% of \$800 = \$8 0.5% 0 0.5% of \$40 1% of \$40.00 = \$0.40 or 4	ese amounts? 0.5% f \$800 is \$4. 0c 0.5% of \$40 = 2	is half of 1%. Finc	1% and halve it	
Find 0.5% of each of these	amounts:			
1) 0.5% of \$200 =		6) 0.5%	o of \$900 =	
2) 0.5% of \$300 =		7) 0.5%	o of \$100 =	
3) 0.5% of \$1,000=		8) 0.5%	o of \$4,000 =	
4) 0.5% of \$600 =		9) 0.5%	o of \$400 =	
5) 0.5% of \$500 =		10) 0.5%	of \$10,000 =	
Simplify these fractions $11) \frac{6}{12} = $ 13	$\frac{25}{40} =$	$^{15)}\frac{16}{32} =$	17) 4/8	=
$\frac{12}{50} = $ 14	$\frac{6}{36} =$	$\frac{16}{15} =$	18) <u>10</u> 	=

Bring It On!					Percentages
Homework			Advanc	ed Percent	age: 10 HW
PROFESSOR PETE'S	% Intro 10%+dis Common to %	25%+dis 50%+dis	10% 50% 100+%	% inc 1% 0.4 100+% inc	5% Revision Adv percent
Information for P	arents: Expressing	; One Quant	t <mark>ity</mark> as a Per	centage of A	nother
Expressing one quantity % of 80 = 20 C 20 is a quarter of 80 so 20 25% of 80 = 20 Rem	as a percentage o ompare 80 and 20 is 25% of 80. ember: 1/2 = 50%;	f another 1/4 = 25%;	1/5 = 20%;	1/10 = 10%,	1/100 = 1%
Find the percent:		6)	of 250 -	2.5	
(1) - 018 = 4		0)	$_01250 =$	2.5	
2) = 01800 = 800		?) 2)	-01000 -	10	
(3) = 01200 = 30		0)	-0140 =	7	
(4) = 01 100 = 73	0	9) 10)	-0170 - 1	165	
	J	10)	01 405 -	400	
Find 150% of each of thes 11) 150% of 200 =	e larger numbers:	16) 150 9	% of 120 =		
12) 150% of 600 =		17) 150 9	% of 300 =		
13) 150% of 80 =		18) 150 9	% of 100 =		
14) 150% of 40 =		19) 150 9	% of 30 =		
15) 150% of 200 =		20) 1509	% of 50 =		
Find 1%, 10% or 100% of e	each of these numbe	ers:			
21) 10% of 588 =	_	26) 1%	of 6445 =_		
22) 1% of 4698 =	_	27) 1%	of 550 =		
23) 100% of 455 =		28) 10%	of 760 =		
24) 100% of 12 =	_	29) 10%	of 4888 =		
25) 10% of 244 =		30) 1%	of 79 =		
Simplify these fractions $31) \frac{3}{12} = 33$	$\frac{8}{16} = $	$^{35)}\frac{4}{24} =$		$\frac{37}{12} =$	
$32) \frac{2}{6} = $ 34	$\frac{4}{8} =$	$\frac{36}{36} \frac{12}{36} =$		$\frac{38}{12} =$	

Percentage Revision: 11 HW

Homework

PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis 10% 50% inc 5+dis 100+% 100	the second secon
Complete:			
1) 100% of 96 =		9) 200% of 33 =	_
2) 200% of 75 =		10) 50% of 80 =	
3) 100% of 98 =		11) 50% of 50 =	
4) 200% of 300 =	-	12) 10% of 56 =	
5) 300% of 150 =	-	13) 10% of 5000 =	
6) 150% of 20 =		14) 0.5% of 100 =	
7) 150% of 40 =		15) 10% of 905 =	_
8) 100% of 34 =		16) 100% of 35 =	_
Find the missing number:		Multiply whole numbers	by fractions
17) 10% of = 0.6		²⁴⁾ 20 × $\frac{1}{2}$ =	²⁹⁾ 12 × $\frac{1}{2}$ =
18) 1% of = 0.02		²⁵⁾ 27 × $\frac{8}{9}$ =	$30)$ 30 × $\frac{2}{10}$ =
19) 10% of = 40		$^{26)}$ 20 x 9 =	³¹⁾ 81 × $\frac{5}{2}$ =
20 100% of = 250			9 <u> </u>
22) $1\% \text{ of } = 0.04$		$2^{(1)}$ 12 × $\frac{3}{4}$ =	$^{32)}$ 21 × $\frac{1}{3}$ =
23) 50% of = 10		²⁸⁾ 30 × $\frac{1}{3}$ =	33) 8 × $\frac{4}{8}$ =
Simplify these fractions			
	$\frac{2}{6} =$	$\frac{38}{40} =$	$(40) \frac{3}{6} =$
$35) \frac{3}{18} = 37$	$\frac{30}{36} =$	$\frac{39}{8} = $	$\frac{41}{12} = $
Find the percent:		Find the missing number	er:
42) of 6 = 0.06		47) 20% of = 2	
43) of 200 = 40		48) 50% of = 25	
44) of 6 = 0.6		49) 1% of = 3	
45) of 200 = 6		50) 50% of = 1.5	5
46) of 300 = 30		51) 1% of = 0.09)

This worksheet is part of the Professor Pete's Classroom eBook "Bring It On! Percentages Worksheets".





Answer Keys



Answer Keys

Answer Keys are provided for all worksheets in this eBook. Each Answer Key is identified by the title in the header of the page, which is identical to the relevant worksheet.

Suggested Uses:

- 1. Put the complete set of answer keys in a folder for students to take when marking their own work.
- 2. Display the relevant answer key on a data projector, with or without an interactive whiteboard, to display the answers to students as they mark each other's responses.

Bring It On!	ANSWE	RS	Percentages	
Name:	Score:		Percent: 1 [A]	
PROFESSOR PETE'S	% Intro10%+disCommon to %50	25%+dis 10% 50% inc %+dis 100+% 100-	1% 0.5% Revision +% inc Adv percent	
Percent: Percent means "out of 100 parts" ("cent" refers to 100; think 100c = a dollar) A percent is a number-it is a fraction, as it is a number of parts out of 100. 60% is 60 out of 100. It is equal to the common fraction $\frac{60}{100}$ and the decimal fraction 0.60 or 0.6 Common and decimal fractions can be written as percentages. Of course in common fractions it is easiest if the denominator is 100. 0.34 or $\frac{34}{100}$ can be written as 34%				
Convert these percents to	common fractions	Convert these percents to	decimals	
¹⁾ 50% = $\frac{50}{100}$	6) 5% = $\frac{5}{100}$	$^{11)}$ 25% = 0.25	$^{16)}$ 9% = 0.09	
²⁾ $34\% = \frac{34}{100}$	⁷⁾ 48% = $\frac{49}{100}$	12) 15% = 0.15	$^{17)} 2\% = 0.02$	
³⁾ 75% = $\frac{75}{100}$	⁸⁾ 10% = $\frac{10}{100}$	$^{13)}$ 20% = 0.20	$^{18)}$ $68\% = 0.68$	
⁴⁾ 67% = $\frac{67}{100}$	⁹⁾ 1 % = $\frac{1}{100}$	¹⁴⁾ 70% = 0.70	$^{19)}$ 11% = 0.11	
⁵⁾ 18% = $\frac{18}{100}$	10) 95% = $\frac{95}{100}$	¹⁵⁾ 39% = 0.39	$^{20)}$ 99% = 0.99	
Convert these common fra	actions to percents	Convert these decimals to	percents	
$^{21)}~\frac{35}{100}=~35~\%$	$\frac{26)}{100} = 66 \%$	$^{31)}$ 0.26 = 26 %	$^{36)}$ 0.27 = 27 %	
²²⁾ $\frac{16}{100} =$ 16 %	$\frac{27)}{100} = 45 \%$	$^{32)}$ 0.48 = 48 %	$^{37)}$ 0.89 = 89 %	
²³⁾ $\frac{8}{100} = 8 \%$	$\frac{^{28)}}{^{100}} = 55 \%$	$^{33)}$ 0.13 = 13 %	$^{38)} 0.80 \ = \ 80 \ \%$	
$^{24)} \frac{_{46}}{_{100}} = \ 46 \ \%$	²⁹⁾ $\frac{17}{100} =$ 17 %	$^{34)}$ 0.03 = 3%	$^{39)}$ 0.98 = 98 %	
²⁵⁾ $\frac{15}{100} =$ 15 %	$\frac{30}{100} = 5 \%$	$^{35)}$ 0.09 = 9%	40) $0.44 = 44\%$	
Comparing fractions: Change mixed numbers to it e.g: $2\frac{4}{5}$ $\stackrel{14}{5}$ $\stackrel{13}{5}$ Convert any fractions with of same denominator, $\frac{6}{12}$ then compare. $\frac{3}{6}$	mproper then compare. lifferent denominators to the $ \frac{7}{12} $	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	⁵⁾ $3\frac{1}{4} < \frac{14}{4}$ ⁶⁾ $\frac{5}{3} > \frac{5}{4}$ ⁷⁾ $3\frac{1}{4} > \frac{11}{4}$ ⁸⁾ $\frac{17}{6} > \frac{9}{5}$	
		4 4	° °	

ANSWERS

Score:

Percentages

Name:

Percent: 1[B]

PROFESSOR PETE'S	% Intro10%+disCommon to %50%	25%+dis 10% 50% inc %+dis 100+% 100-	1% 0.5% Revision +% inc Adv percent
Convert these percents to	common fractions	Convert these percents to	decimals
¹⁾ 55% = $\frac{55}{100}$	6) 6% = $\frac{6}{100}$	$^{11)}$ 22% = 0.22	$^{16)}$ $6\% = 0.06$
²⁾ 33% = $\frac{33}{100}$	⁷⁾ 42% = $\frac{42}{100}$	$^{12)}$ 19% = 0.19	¹⁷⁾ 8% = 0.08
³⁾ 7% = $\frac{7}{100}$	⁸⁾ 12% = $\frac{12}{100}$	$^{13)}$ 29% = 0.29	$^{18)}$ 61% = 0.61
$^{4)}$ 60% = $\frac{60}{100}$	⁹⁾ $4\% = \frac{4}{100}$	$^{14)}$ 75% = 0.75	$^{19)}$ 13% = 0.13
⁵⁾ 11% = $\frac{11}{100}$	10) 99% = $\frac{99}{100}$	$^{15)}$ 35% = 0.35	$^{20)}$ 91% = 0.91
Convert these common fra	actions to percents	Convert these decimals to	percents
²¹⁾ $\frac{58}{100} = 58 \%$	$\frac{26)}{100} = 62 \%$	$^{31)}$ 0.20 = 20 %	$^{36)}$ 0.29 = 29%
²²⁾ $\frac{97}{100} =$ 97 %	$\frac{27)}{100} = 40 \%$	$^{32)}$ 0.41 = 41 %	$^{37)}$ 0.81 = 81 %
²³⁾ $\frac{7}{100} = 7 \%$	$\frac{28)}{100} = 58 \%$	³³⁾ 0 = 0 %	$^{38)} 0.75 \ = \ 75 \ \%$
$\frac{^{24)}}{^{100}} = 81 \%$	$\frac{29}{100} = 12 \%$	$^{34)}$ 0.09 = 9%	$^{39)}$ 0.10 = 10 %
²⁵⁾ $\frac{13}{100} =$ 13 %	³⁰⁾ $\frac{1}{100} = 1 \%$	$^{35)}$ 0.02 = 2%	40) $0.42 = 42\%$
Insert <, > or =			
¹⁾ $\frac{4}{6} > \frac{1}{6}$	$\frac{4}{3} \frac{2}{3} > \frac{1}{6}$	⁷⁾ $4\frac{1}{4} > \frac{14}{4}$	$\frac{10}{4} \frac{3}{4} - \frac{12}{5}$
²⁾ $\frac{5}{12} > \frac{1}{6}$	⁵⁾ $2\frac{4}{8} < \frac{22}{8}$	⁸⁾ $\frac{13}{5} > \frac{11}{5}$	¹¹⁾ $\frac{3}{5} < \frac{14}{6}$
³⁾ $1\frac{4}{9} < \frac{14}{9}$	⁶⁾ $\frac{2}{9} < \frac{2}{3}$	⁹⁾ $\frac{2}{5} < \frac{8}{5}$	$^{12)}\frac{10}{4} > \frac{4}{3}$
Addition rainbow pairs t	o 10	Subtraction rainbow pai	rs to 10
13) <u>2</u> + 8 = 10	18) 8 + 2 = 10	23) 10 - 6 = 4	28) 10 - 5 = <u>5</u>
14) 10 + <u>0</u> = 10	19) 4 + 6 = <u>10</u>	24) 10 - 8 = <u>2</u>	29) 10 - 6 = <u>4</u>
15) 6 + <u>4</u> = 10	20) 9 + 1 = <u>10</u>	25) 10 - 3 = 7	30) 10 - 4 = <u>6</u>
16) <u>6</u> + 4 = 10	21) 7 + <u>3</u> = 10	26) 10 - 7 = <u>3</u>	31) 10 – 1 = <u>9</u>
17) <u>1</u> + 9 = 10	22) <u>5</u> + 5 = 10	27) 10 - 5 = 5	32) 10 - 2 = <u>8</u>

This worksheet is part of the Professor Pete's Classroom eBook "Bring It On! Percentages Worksheets". The recommended teaching sequence is shown in the bar at the top of this sheet. Have the students record their time taken to complete the page.

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ANSWERS

Score:

Percentages

Name:

Percent:	1	ľ	С
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PROFESSOR PETE'S	% Intro10%+disCommon to %50%	25%+dis 10% 50% inc %+dis 100+% 100	c 1% 0.5% Revision 0+% inc Adv percent
Convert these percents to	common fractions	Convert these percents to	decimals
¹⁾ 82% = $\frac{82}{100}$	6) 9% = $\frac{9}{100}$	¹¹⁾ $21\% = 0.21$	$^{16)}$ 2% = 0.02
²⁾ $38\% = \frac{38}{100}$	⁷⁾ 36 % = $\frac{36}{100}$	¹²⁾ $71\% = 0.71$	17) 1% = 0.01
³⁾ 5% = $\frac{5}{100}$	⁸⁾ 18% = $\frac{18}{100}$	$^{13)}$ 28% = 0.28	$^{18)}$ 60% = 0.6
⁴⁾ 69% = $\frac{69}{100}$	⁹⁾ 8% = $\frac{8}{100}$	¹⁴⁾ $33\% = 0.33$	$^{19)}$ 12% = 0.12
⁵⁾ 13% = $\frac{13}{100}$	¹⁰⁾ 93% = $\frac{93}{100}$	¹⁵⁾ $50\% = 0.5$	$^{20)}$ 96% = 0.96
Percent: With decimal fractions, take 0.6	care to convert tenths to hundr is 0.60 or 60%	edths before converting to a pe	ercent.
Convert these common fra	actions to percents	Convert these decimals to	percents
²¹⁾ $\frac{40}{100} = 40\%$	$\frac{60}{100} = 60\%$	$^{31)}$ 0.23 = 23%	$^{36)}$ 0.21 = 21%
²²⁾ $\frac{91}{100} = 91\%$	$\frac{27}{100} = 44\%$	$^{32)}$ 0.42 = 42%	$^{37)}$ $0.8 = 80\%$
$\frac{23}{100} = 2\%$	$\frac{28}{100} = 51\%$	$^{33)}$ 0.04 = 4%	$^{38)}$ 0.71 = 71%
²⁴⁾ $\frac{88}{100} = 88\%$	²⁹⁾ $\frac{16}{100} = 16\%$	$^{34)}$ 0.03 = 3%	$^{39)}$ 0.12 = 12%
²⁵⁾ $\frac{15}{100} = 15\%$	³⁰⁾ $\frac{8}{100} = 8\%$	$^{35)}$ 0.9 = 90%	$^{40)}$ 0.43 = 43%
Insert <, > or =		-	
$\frac{1}{12} \frac{3}{46}$	$\frac{3}{3} \frac{2}{3} > \frac{1}{3}$	$\frac{5}{3} \frac{2}{3} < \frac{10}{4}$	$^{7)} \frac{6}{4} > \frac{2}{3}$
²⁾ 4 $\frac{1}{6} = \frac{25}{6}$	⁴⁾ $\frac{1}{3} > \frac{2}{9}$	⁶⁾ $\frac{2}{5} > \frac{3}{10}$	⁸⁾ $\frac{4}{6} = \frac{8}{12}$
Addition revision 9) 10 + 7 = 17	13) 5 + 4 = 9	Subtraction revision 17) $15 - 7 = 8$	21) 7 - 3 = 4
10) 1 + 5 = 6	14) 4 + 7 = 11	18) 10 - 7 = 3	22) 13 – 8 = 5
11) 1 + 4 = 5	15) 1 + 6 = 7	19) 17 - 9 = 8	23) 11 – 5 = <mark>6</mark>
12) 3 + 5 = $\frac{8}{2}$	16) 5 + 9 = <u>14</u>	20) 18 - 9 = 9	24) 12 - 5 = 7

ANSWERS

Score:

Percentages

1[D]

Percent:

Name:

PROFESSOR PETE'S	% Intro10%+disCommon to %50%	25%+dis 10% 50% in %+dis 100+% 100	c 1% 0.5% Revision 0+% inc Adv percent
Convert these percents to	common fractions	Convert these percents to	decimals
¹⁾ 85 % = $\frac{85}{100}$	⁶⁾ $3\% = \frac{3}{100}$	¹¹⁾ $25\% = 0.25$	$^{16)}$ 7% = 0.07
²⁾ 33 % = $\frac{33}{100}$	⁷⁾ 31 % = $\frac{31}{100}$	$^{^{12)}} 70\% = 0.7$	$^{17)}$ 3% = 0.03
³⁾ 10 % = $\frac{10}{100}$	⁸⁾ 14 % = $\frac{14}{100}$	$^{13)}$ 20% = 0.2	$^{18)}$ 64% = 0.64
⁴⁾ 61% = $\frac{61}{100}$	⁹⁾ 5% = $\frac{5}{100}$	$^{14)}$ 31% = 0.31	$^{19)} 11\% = 0.11$
⁵⁾ 18 % = $\frac{18}{100}$	¹⁰⁾ 91 % = $\frac{91}{100}$	57% = 0.57	$^{20)}$ 93% = 0.93
Convert these common fra	actions to percents	Convert these decimals to	percents
²¹⁾ $\frac{47}{100} =$ 47 %	²⁶⁾ $\frac{70}{100} = 70$ %	$^{31)}$ $0.73 = 73\%$	$^{36)}$ 0.26 = 26%
$^{22)} \frac{94}{100} = 94 \%$	$\frac{27}{100} = 45\%$	$^{32)}$ 0.12 = 12%	0.7 = 70%
²³⁾ $\frac{6}{100} = 6\%$	²⁸⁾ $\frac{52}{100} = 52\%$	$^{33)}$ 0.06 = 6%	$^{38)}$ 0.21 = 21%
$\frac{^{24)}}{^{100}} = 86 \%$	²⁹⁾ $\frac{19}{100} = 19$ %	$^{34)}$ 0.08 = 8%	$^{39)}$ 0.1 = 10%
²⁵⁾ $\frac{12}{100} = 12$ %	³⁰⁾ $\frac{7}{100} = 7\%$	$^{35)}$ 0.01 = 1%	0.9 = 90%
Insert <, > or =			
¹⁾ $4\frac{5}{6} < \frac{45}{6}$	$\frac{4}{3} = \frac{2}{3}$	⁷⁾ $\frac{2}{4} < \frac{9}{4}$	$\frac{10}{3} \frac{14}{3} > 1\frac{4}{3}$
²⁾ $2\frac{1}{3} < \frac{8}{3}$	$\frac{5}{12} \xrightarrow{4} \frac{1}{6}$	⁸⁾ $\frac{2}{3} < \frac{3}{4}$	$\frac{11}{4} > \frac{9}{5}$
³⁾ $\frac{6}{9} > \frac{2}{12}$	⁶⁾ 4 $\frac{1}{9}$ = $\frac{37}{9}$	$\frac{9}{4} \frac{6}{4} < \frac{13}{5}$	$\frac{12}{4} \frac{3}{4} \frac{4}{4}$
Addition revision 13) 8 + 4 = 12	18) 3 + 9 = <u>12</u>	Subtraction revision 23) $12 - 8 = 4$	28) 12 - 3 = 9
14) 5 + 9 = 14	19) 2 + 4 = 6	24) 9 – 4 = 5	29) 9 - 7 = <u>2</u>
15) 4 + 9 = <u>13</u>	20) 5 + 8 = 13	25) 14 - 6 = <u>8</u>	30) 8 - 6 = <u>2</u>
16) 8 + 7 = <u>15</u>	21) 4 + 4 = <u>8</u>	26) 5 - 3 = <u>2</u>	31) 10 - 6 = <u>4</u>
17) 10 + 7 = 17	22) 1 + 9 = 10	27)7 - 3 = 4	32) 16 – 9 = 7

This worksheet is part of the Professor Pete's Classroom eBook "Bring It On! Percentages Worksheets". The recommended teaching sequence is shown in the bar at the top of this sheet. Have the students record their time taken to complete the page.

Bring It On!	ANSWE	RS Percentages	
Name:	Score: Convertin	g Common Fractions to Percent: 2 [A]	
CLASSROON	5 % Intro 10%+dis Common to % 50	25%+dis 10% 50% inc 1% 0.5% Revision %+dis 100+% 100+% inc Adv percent	
Converting Common Fractions to Percent, Percent to Common Fractions: Converting a common fraction to a percent requires the fraction to have a denominator of 100. e.g. $\frac{3}{4} = -\frac{9}{4}$ convert the denominator to hundredths $\frac{3}{4}\frac{25}{100} = 25\%$			
When converting percent $60\% = \frac{6}{10}$	s back to a common fraction, sime $\frac{0}{10} = \frac{3}{5}$	plify the fraction.	
Convert these common	fractions to percents:	Convert these percents to simplified common fractions:	
1) $\frac{1}{20} = \frac{5}{100} = 5\%$	6) $\frac{5}{10} = \frac{50}{100} = 50$ %	11) $10\% = \frac{10}{100} = \frac{1}{10}$ 16) $50\% = \frac{50}{100} = \frac{1}{2}$	
2) $\frac{2}{10} = \frac{20}{100} = 20\%$	$7 \frac{1}{25} = \frac{4}{100} = 4 \%$	12) 20 % = $\frac{20}{100} = \frac{1}{5}$ 17) 75 % = $\frac{75}{100} = \frac{3}{4}$	
3) $\frac{1}{5} = \frac{20}{100} = 20 \%$	8) $\frac{2}{20} = \frac{10}{100} = 10$ %	13) $15\% = \frac{15}{100} = \frac{3}{20}$ 18) $40\% = \frac{40}{100} = \frac{2}{5}$	
4) $\frac{1}{2} = \frac{50}{100} = 50\%$	9) $\frac{5}{25} = \frac{20}{100} = 20$ %	14) 25 % = $\frac{25}{100}$ = $\frac{1}{4}$ 19) 5% = $\frac{5}{100}$ = $\frac{1}{20}$	
5) $\frac{1}{50} = \frac{2}{100} = 2\%$	10) $\frac{2}{4} = \frac{50}{100} = 50 \%$	15) $2\% = \frac{2}{100} = \frac{1}{50}$ 20) $80\% = \frac{80}{100} = \frac{4}{5}$	
Adding and Subtracti	ng Vertically:	Subtract the fractions (regroup one whole where necessary)	
$ \begin{array}{r} 3 \frac{6}{9} \\ + 1 \frac{7}{9} \\ \frac{4 \frac{13}{9}}{4 \frac{13}{9}} 5 \end{array} $	$-\frac{5\frac{3}{9}}{2\frac{7}{9}}\frac{4\frac{12}{9}}{2\frac{5}{9}}$	$\begin{bmatrix} 1 & 8\frac{1}{3} & 2 & 4\frac{2}{4} & 3 & 9\frac{1}{4} \\ -7\frac{2}{3} & -3\frac{3}{4} & -5\frac{3}{4} \\ -\frac{2}{3} & -3\frac{3}{4} & -5\frac{3}{4} \\ -3\frac{1}{2} & -3\frac{1}{2} \end{bmatrix}$	
Insert <, > or = $\frac{4}{1} \frac{1}{2} < \frac{1}{2}$	$^{6)}$ $\frac{1}{2}$ < $\frac{4}{2}$	⁸⁾ $\frac{10}{2} < \frac{15}{2}$ ¹⁰⁾ $\frac{3}{2} < \frac{4}{2}$	
6 - 3 $5) \frac{4}{9} < \frac{3}{6}$	3 - 9 7) $\frac{4}{6} > \frac{4}{9}$	6 - 6 - 5 - 3 $9) \frac{4}{3} > \frac{1}{3} - \frac{1}{6}$ $11) 1\frac{4}{6} < \frac{11}{6}$	
Addition revision 12) $9 + 4 = 13$	16) 1 + 4 = 5	Subtraction revision 20) $13 - 9 = 4$ 24) $12 - 5 = 7$	
13) 3 + 9 = 12		$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	
14) 3 + 4 = 7	18) 7 + 6 = <u>13</u>	$22) 7 - 2 = 5 \qquad 26) 18 - 9 = 9$	
15) 8 + 8 = <u>16</u>	19) 7 + 7 = <u>14</u>	23) 13 - 8 = 5 27) 11 - 3 = 8	

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ANSWERS

Name:

Score:

Converting Common Fractions to Percent: 2 [B]

PROFESSOR PETE'S % Intro 10%+dis CLASSROOM Common to % 50%	25%+dis 10% 50% inc 1% 0.5% Revision %+dis 100+% 100+% inc Adv percent
Convert these common fractions to percents:	Convert these percents to simplified common fractions:
¹⁾ $\frac{3}{20} = 15$ % ⁶⁾ $\frac{3}{10} = 30$ %	11) 15 % = $\frac{3}{20}$ 16) 1 % = $\frac{1}{100}$
²⁾ $\frac{6}{10} = 60 \%$ ⁷ $\frac{2}{25} = 8 \%$	12) 10 % = $\frac{1}{10}$ 17) 75 % = $\frac{3}{4}$
³⁾ $\frac{1}{5} = 20$ % ⁸⁾ $\frac{11}{20} = 55$ %	13) 60 % = $\frac{3}{5}$ 18) 50 % = $\frac{1}{2}$
⁴⁾ $\frac{1}{2} = 50 \%$ ⁹⁾ $\frac{4}{25} = 16 \%$	14) 25 % = $\frac{1}{4}$ 19) 2 % = $\frac{1}{50}$
⁵⁾ $\frac{7}{50} = 14$ % ¹⁰⁾ $\frac{3}{4} = 75$ %	15) 4 % = $\frac{1}{25}$ 20) 80 % = $\frac{4}{5}$
Adding and Subtracting Vertically:	Add the fractions
$ \frac{3\frac{6}{9}}{+\frac{1\frac{7}{9}}{4\frac{13}{9}}5\frac{4}{9}} - \frac{5\frac{3}{9}}{2\frac{7}{9}}4\frac{12}{9}}{2\frac{5}{9}} $	$\begin{bmatrix} 1 & 2\frac{2}{3} & 2 & 3\frac{3}{4} & 3 & 1\frac{7}{10} \\ + & 4\frac{1}{3} & + & 1\frac{2}{4} \\ \hline & 7 & 5\frac{1}{4} & - & 6\frac{3}{10} \end{bmatrix}$
Subtract the fractions (change to improper fractions where necessary)	Add the fractions
$ \begin{array}{c} {}^{4)} & 5\frac{1}{3} & {}^{5)} & 7\frac{1}{8} & {}^{6)} & 7\frac{1}{3} \\ \\ - & 2\frac{2}{3} & - & 3\frac{5}{8} & - & 4\frac{2}{3} \\ \hline & & & & & \\ \hline & & & & & \\ \hline & & & &$	$\begin{bmatrix} 7 \\ 2 \frac{1}{8} \\ + 3\frac{2}{8} \\ 5\frac{3}{8} \\ \hline 5\frac{3}{8} \\ $
Insert <, > or = 10) $1 < 2$ 13) $1 < 8$	¹⁶⁾ $\frac{6}{5} < \frac{15}{19}$ ¹⁹⁾ $3\frac{1}{5} < \frac{14}{5}$
$6 - 3 \qquad 3 - 9$	$4 - 6 \qquad - 4 - 4$
$1\frac{3}{9} = \frac{13}{9}$ $\frac{17}{3} \ge 2\frac{1}{3}$	$\frac{1}{3} \stackrel{-}{\underline{3}} \stackrel{-}{\underline{4}} \stackrel{-}{\underline{6}} \stackrel$
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	${}^{18)} \frac{6}{4} > \frac{6}{5} \qquad {}^{21)} \frac{8}{3} > \frac{11}{5}$

ANSWERS

Name:

Score:

Converting Common Fractions to Percent: 2 [C]

PROFESSOR PETE'S	% Intro10%+disCommon to %50%	25%+dis 10% 50% in %+dis 100+% 100	c 1% 0.5% Revision 0+% inc Adv percent	
Convert these common fra	actions to percents:	Convert these percents to fractions:	simplified common	
¹⁾ $\frac{15}{20} = 75$ %	6) $\frac{4}{10} = 40 \%$	11) 20 % = $\frac{1}{5}$	¹⁶⁾ $4\% = \frac{2}{50}$	
²⁾ $\frac{3}{20} = 15$ %	$\frac{5}{25} = 20 \%$	¹²⁾ 25 % = $\frac{1}{4}$	17) 50 % = $\frac{1}{2}$	
³⁾ $\frac{2}{5} = 40$ %	⁸⁾ $\frac{5}{20} = 25 \%$	¹³⁾ 75 % = $\frac{3}{4}$	¹⁸⁾ 10 % = $\frac{1}{10}$	
⁴⁾ $\frac{7}{20} = 35 \%$	⁹⁾ $\frac{2}{25} = 8\%$	¹⁴⁾ 5 % = $\frac{1}{20}$	¹⁹⁾ 1% = $\frac{1}{100}$	
$\frac{5}{50} = 6 \%$	$\frac{10}{5} = 100 \%$	15) $2\% = \frac{1}{50}$	²⁰⁾ 60 % = $\frac{3}{5}$	
Subtract the fractions (c fractions where necessa	hange to improper ary)	Add the fractions		
$^{1)}$ $8\frac{8}{10}$ $^{2)}$	$5\frac{5}{9}$ ³⁾ $8\frac{4}{6}$	$5^{4)}$ $5\frac{2}{5}$ $5^{5)}$	$2\frac{4}{8}$ ⁶⁾ $4\frac{6}{8}$	
$-7\frac{9}{10}$ -	$1\frac{6}{9}$ – $2\frac{5}{6}$	$+ 2\frac{4}{5} +$	$1\frac{7}{8}$ + $2\frac{7}{8}$	
<u> </u>	$3\frac{8}{9}$ $5\frac{5}{6}$	<u>8¹/₅</u>	$4\frac{3}{8}$ $7\frac{5}{8}$	
Insert <, > or =				
$7) \frac{7}{9} > \frac{3}{12}$	$\frac{10}{9} \frac{3}{-5} \frac{5}{6}$	$\frac{13}{5} \frac{4}{5} < \frac{4}{3}$	$\frac{16}{4} \frac{7}{4} > \frac{1}{6}$	
⁸⁾ $3\frac{4}{8} \geq \frac{22}{8}$	¹¹⁾ $\frac{1}{3} < \frac{5}{6}$	$\frac{14)}{6} \frac{3}{6} \frac{14}{5}$	$\frac{17}{3} \frac{7}{4} < \frac{17}{6}$	
9) $\frac{4}{6} > \frac{3}{12}$	¹²⁾ $\frac{7}{9} \leq \frac{5}{6}$	$\frac{15}{4} \stackrel{2}{-} \frac{15}{6}$	¹⁸⁾ $\frac{1}{3} = \frac{3}{9}$	
Equivalent fractions				
${}^{19)} \frac{7}{8} = \frac{42}{48} = \frac{14}{16}$	²¹⁾ $\frac{2}{8} = \frac{18}{72} = \frac{8}{32}$	$\frac{23}{4} = \frac{21}{28} = \frac{15}{20}$	$\frac{25}{6} = \frac{4}{12} = \frac{12}{36}$	
${}^{20)} \ \frac{2}{4} = \frac{10}{20} = \frac{8}{16}$	$\frac{22}{5} \frac{4}{5} = \frac{20}{25} = \frac{8}{10}$	$\frac{24}{4} = \frac{12}{24} = \frac{10}{20}$	$\frac{26}{3} = \frac{4}{6} = \frac{8}{12}$	
Revision: Multiply fracti	Revision: Multiply fractions by whole numbers Multiply whole numbers by fractions			
²⁷⁾ $\frac{5}{6}$ of 42 = <u>35</u>	²⁹⁾ $\frac{2}{3}$ of 21 = <u>14</u>	$31) 16 \times \frac{3}{4} = 12$	$^{33)} 40 \times \frac{4}{10} = 16$	
$\frac{28}{9} \frac{3}{9} \text{ of } 18 = 6$	$\frac{30}{7} \frac{3}{7} \text{ of } 42 = 18$	³²⁾ 21 × $\frac{2}{7} = 6$	$^{34)}$ 48 × $\frac{3}{6}$ = 24	

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ANSWERS

Name:

Score:

Converting Common Fractions to Percent: 2 [D]

PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis 10% 50% inc 1% 0.5% Revision +dis 100+% 100+% inc Adv percent
Convert these common fra	ctions to percents:	Convert these percents to simplified common fractions:
¹⁾ $\frac{8}{20} = 40 \%$	$\frac{6}{10} = 60 \%$	11) 30 % = $\frac{3}{10}$ 16) 5 % = $\frac{1}{20}$
²⁾ $\frac{3}{25} = 12 \%$	$\frac{7}{25} = 16 \%$	12) 45 % = $\frac{9}{20}$ 17) 40 % = $\frac{2}{5}$
$\frac{3}{5} = 60 \%$	$\frac{7}{20} = 35 \%$	13) 25 % = $\frac{1}{4}$ 18) 80 % = $\frac{4}{5}$
$\frac{4}{20} = 30 \%$	$\frac{8}{25} = 32 \%$	¹⁴⁾ 15 % = $\frac{3}{20}$ ¹⁹⁾ 8 % = $\frac{2}{25}$
5) $\frac{15}{50} = 30 \%$	$\frac{10}{8} = 100 \%$	15) 4 % = $\frac{1}{25}$ 20) 60 % = $\frac{3}{5}$
Subtract the fractions (cl fractions where necessa	hange to improper ry)	Add the fractions
¹⁾ $9\frac{2}{5}$ ³⁾	$6\frac{1}{8}$ ⁵⁾ $8\frac{4}{6}$	⁷⁾ $3\frac{3}{4}$ ⁹⁾ $1\frac{2}{3}$ ¹¹⁾ $5\frac{6}{10}$
$-2\frac{3}{5}$ -	$2\frac{3}{8}$ - $7\frac{5}{6}$	$+ 4\frac{1}{4} + 1\frac{2}{3} + 3\frac{4}{10}$
$6\frac{3}{5}$	$\frac{3}{3\frac{3}{4}}$ $\frac{5}{6}$	$\frac{-4}{8}$ $\frac{-3}{3\frac{1}{2}}$ $\frac{-10}{9}$
<u>5</u>		
$5\frac{1}{10}$ $5\frac{1}{10}$	$7\frac{2}{5}$ ⁶⁾ $9\frac{3}{8}$	⁸⁾ $2\frac{3}{10}$ ¹⁰⁾ $5\frac{7}{10}$ ¹²⁾ $5\frac{2}{5}$
$-1\frac{3}{10}$ -	$3\frac{3}{5}$ – $8\frac{6}{8}$	$+ 5\frac{5}{10} + 5\frac{8}{10} + 5\frac{2}{5}$
$3\frac{4}{5}$	$3\frac{4}{5}$ $\frac{5}{8}$	$\frac{7\frac{4}{5}}{11\frac{1}{2}} \qquad \frac{10\frac{4}{5}}{10\frac{1}{5}}$
Insert <, > or =		
¹³⁾ $\frac{10}{12} > \frac{1}{3}$	¹⁵⁾ $\frac{5}{9} > \frac{1}{6}$	$ \begin{array}{c} 17) \ \frac{6}{10} \ \underline{=} \ \frac{3}{5} \end{array} \qquad \begin{array}{c} 19) \ \frac{11}{5} \ \underline{<} \ \frac{10}{4} \end{array} $
¹⁴⁾ $\frac{2}{9} < \frac{2}{3}$	¹⁶⁾ $5\frac{2}{6} = \frac{32}{6}$	¹⁸⁾ $\frac{6}{4} = \frac{9}{6}$ ²⁰⁾ $\frac{14}{5} > \frac{8}{3}$
Addition revision 21) 7 + 4 = 11	25) 1 + 9 = 10	Subtraction revision 29) $5 - 3 = 2$ 33) $6 - 4 = 2$
22) 3 + 4 = 7	26) 4 + 5 = 9	30) 16 - 7 = 9 34) 13 - 6 = 7
23) 9 + 9 = <u>18</u>	27) 8 + 9 = <u>17</u>	31) 4 - 2 = <u>2</u> 35) 18 - 9 = <u>9</u>
24) 10 + 9 = <u>19</u>	28) 3 + 9 = <u>12</u>	32) 13 - 7 = <u>6</u> 36) 7 - 5 = <u>2</u>

Name:

ANSWERS

Score:

Percentages

Percent 10%: 3 [A]

PROFESSOR PETE'S %I	ntro 10%+dis 25 Common to % 50%+dis	5%+dis 10% 50% inc s 100+% 100	: 1% 0.5% Revision +% inc Adv percent
Calculating 10% of a quantity:10% is one tenth: $10\% = \frac{11}{10}$ Remember: Finding 10% is the same Each digit moves one place to the rest.	$\frac{D}{0} = \frac{1}{10}$ le as dividing the number by ight.	eg 10% of 56 = 5. 7 10. H T O. t 5 6 → 5. 6	6
Find 10% of each of these num 1) 10% of 20 = 2	bers: 6)	10% of 42 = 4.2	
2) 10% of 72 = 7.2	7)	10% of 24 = 2.4	
3) 10% of 41 = <u>4.1</u>	8)	10% of 47 = 4.7	
4) 10% of 29 = <u>2.9</u>	9)	10% of 35 = <u>3.5</u>	
5) 10% of 54 = 5.4	10)	10% of 13 = 1.3	
Find 10% of each of these hard 11) 10% of 987 = <u>98.7</u> 12) 10% of 9 = <u>0.9</u> 13) 10% of 109 = <u>10.9</u> 14) 10% of 82 = <u>8.2</u> 15) 10% of 8 = <u>0.8</u> Revision: Multiply fractions by 21) $\frac{1}{5}$ of $30 = \frac{6}{23}$ 22) $\frac{3}{5}$ of $30 = 18$ 24)	er examples: 16) 17) 17) 18) 19) 20) 20) whole numbers Re of 18 = 2 26 of 18 = 4 27	10% of 3 = <u>0.3</u> 10% of 73 = <u>7.3</u> 10% of 865 = <u>86.5</u> 10% of 40 = <u>4</u> 10% of 566 = <u>56.6</u> Evision: Multiply fraction $\frac{1}{5}$ of 40 = <u>8</u> $\frac{1}{5}$ of 40 = <u>16</u> $\frac{1}{3}$ of 15 = <u>5</u>	$\frac{5}{29}$ $\frac{1}{7} \text{ of } 42 = \frac{6}{18}$ $\frac{30}{7} \frac{3}{7} \text{ of } 42 = \frac{18}{18}$ $\frac{31}{9} \text{ of } 36 = \frac{4}{18}$
	28	$\frac{2}{3}$ of 15 = <u>10</u>	³²⁾ $\frac{4}{9}$ of 36 = <u>16</u>
Insert <, > or =			
$\begin{vmatrix} 33 \\ 12 \\ -2 \\ -3 \\ -3 \\ -3 \\ -3 \\ -3 \\ -3 \\ -$	$< 2\frac{2}{9}$ 37)	$\frac{2}{4} < \frac{2}{3}$	$\frac{39}{6} \frac{14}{6} < \frac{8}{3}$
$34) \frac{9}{3} < 3\frac{1}{3}$ $36) \frac{3}{9}$	< ² / ₃ 38)	$1\frac{1}{4} = \frac{10}{8}$	$\frac{40}{4} = \frac{6}{2} = \frac{2}{3}$

ANSWERS

Percentages

Percent 10% and 20%: Name: Score: 3 [B] PROFESSOR PETE'S % Intro 10%+dis 25%+dis 10% 50% inc 1% 0.5% Revision CLASSROOM Common to % 50%+dis 100+% 100+% inc Adv percent Find 10% of each of these numbers. To find 20% just double it: 1) 10% of 22 = 2.220% of 40 = 86) 2) 10% of 60 = 67) 20% of 60 = 1210% of 51 = 5.18) 20% of 50 = 10 3) 10% of 89 = 8.9 9) 20% of 300 = 604) 10) 20% of 15 = 310% of 5 = 0.55) Find 10% or 20% of each of these larger numbers: 11) 10% of 68 = 6.816) 20% of 50 = 10 17) 20% of 500 = 10012) 10% of 323 = 32.318) 20% of 200 = 4013) 10% of 8 = 0.814) 10% of 500 = 5019) 20% of 450 = 90 15) 10% of 973 = 97.320) 20% of 3000 = 600Revision: Multiply fractions by whole numbers Multiply whole numbers by fractions ²⁴⁾ $\frac{1}{4}$ of 20 = 5 ²¹⁾ $\frac{1}{3}$ of 6 = 2 ²⁷⁾ 40 × $\frac{3}{4}$ = 30 ³⁰⁾ 35 × $\frac{3}{7}$ = 15 ³¹⁾ 16 × $\frac{2}{8}$ = 4 ²²⁾ $\frac{1}{6}$ of 18 = 3 ²⁵⁾ $\frac{1}{6}$ of 42 = 7 ²⁸⁾ 18 × $\frac{2}{6}$ = 6 ²³⁾ $\frac{2}{4}$ of 44 = 22 ²⁶⁾ $\frac{1}{3}$ of 42 = 14 ³²⁾ 10 × $\frac{3}{10}$ = 3 ²⁹⁾ 18 × $\frac{1}{2}$ = 9 Insert <, > or = $\frac{35}{3} = \frac{8}{12}$ $\frac{37}{4} \frac{5}{4} < \frac{9}{4}$ $\frac{39}{4} < \frac{3}{4}$ ³⁶⁾ $4\frac{2}{3} = \frac{14}{3}$ $\frac{34}{12} \xrightarrow{7} \frac{5}{9}$ $\frac{40}{5} \frac{11}{5} > \frac{1}{4}$ $\frac{38}{4} > \frac{1}{4}$ Addition revision Subtraction revision 41) 10 + 7 = 17 45) 5 + 4 = 9 49) 17 - 8 = 953) 15 - 7 = 8 42) 1 + 5 = 6 46) 4 + 7 = 11 50) **17** – **9** = **8** 54) **11** - **3** = **8** 43) 1 + 4 = 5 47) 1 + 6 = 751) **9** – **4** = **5** 55) **10** - **2** = **8** 44) 3 + 5 = 848) 5 + 9 = 14 52) 11 - 5 = 656) 8 - 5 = 3

ANSWERS

Name:	Score:	Percent 10% (discount):	3[C]
PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis 10% 50% inc 1% 0.5% %+dis 100+% 100+% inc Adv pe	Revision ercent
10% Discount Question First find 10%. Then ta How much is an item w	ons ake this away from the o ith a 10% discount?	riginal amount.	
10% discount off an it 10% of \$30 = \$3 dis	em priced at \$30 counted price: \$30 – \$3 =	\$27	
Find 10%, then find the	discounted price:		
10% of \$20 = \$2	discounted price: \$20	- \$2 = \$18	
1) 10% of \$50 = \$5	discounted price: \$50	- \$5 = \$45	
2) 10% of \$40 = \$4	discounted price: \$40	- \$4 = \$36	
3) 10% of \$80 = \$8	discounted price: \$80	- \$8 = \$72	
4) 10% of \$50 = \$5	discounted price: \$50	- \$5 = \$45	
10% of \$400 = \$40 10% of \$2 = \$0.20	discounted price: \$400 - discounted price: \$2 – \$	- \$40 = \$360 0.20 = \$1.80	
Find the new price if the	ere is a 10% discount off t	hese larger amounts:	
10% of \$200 = \$2	discounted price = \$20	00 - \$20 = \$180	
1) 10% of \$4 = \$0.40	discounted price = \$4	- \$0.40 = \$3.60	
2) 10% of \$40 = \$4	discounted price = \$40	0 - \$4 = \$36	
3) 10% of \$80 = \$8	discounted price = \$80	0 - \$8 = \$72	
4) 10% of \$5 = \$0.50	discounted price = \$5	- \$0.50 = \$4.50	
Revision: Multiply fracti	ons by whole numbers	Multiply whole numbers by fractions	
¹⁾ $\frac{2}{3}$ of 27 = <u>18</u>	⁴⁾ $\frac{3}{4}$ of 20 = <u>15</u>	⁷⁾ 40 × $\frac{4}{10} = 16$ ¹⁰⁾ 35 × $\frac{3}{7} = 16$	15
²⁾ $\frac{4}{6}$ of 24 = 16	⁵⁾ $\frac{5}{6}$ of 42 = 35	⁸⁾ 18 × $\frac{5}{6}$ = 15 ¹¹⁾ 16 × $\frac{2}{8}$ = 4	4
³⁾ $\frac{2}{4}$ of 40 = 20	⁶⁾ $\frac{4}{5}$ of 25 = 20	⁹⁾ 27 × $\frac{2}{9} = \frac{6}{12}$ ¹²⁾ 10 × $\frac{3}{10} =$	3
Insert <, > or =			
$ \begin{array}{c} 13) \\ \frac{2}{3} \\ \underline{<} \\ \frac{9}{12} \\ \end{array} $	¹⁵⁾ $\frac{1}{3} < \frac{5}{6}$	¹⁷⁾ $\frac{10}{6} \ge \frac{2}{3}$ ¹⁹⁾ $\frac{8}{3} \ge 2\frac{1}{3}$	
$\frac{14}{3} \frac{6}{3} < 2\frac{1}{3}$	$^{16)} 5\frac{3}{6} < \frac{34}{6}$	¹⁸⁾ $\frac{8}{3} \ge \frac{5}{6}$ ²⁰⁾ $4\frac{3}{4} \le \frac{43}{4}$	

ANSWERS

Name:	Score: F	Percent 10% and 20%	6 (discount): 3 [D]
PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis 10% 50% inc %+dis 100+% 100	+% inc Adv percent
Find 10% or 20%, then fin	d the discounted price:		
1) 10% of \$90 = \$9	discounted price: \$90	- \$9 = \$81	
2) 10% of \$70 = \$7	discounted price: \$70	- \$7 = \$63	
3) 20% of \$50 = \$10	discounted price: \$60	- \$10 = \$50	
4) 10% of \$10 = \$1	discounted price: \$10	- \$1 = \$9	
5) 20% of \$40 = \$8	discounted price: \$40	- \$8 = \$32	
Find 10% or 20%, then fin	id the discounted price o	off these harder examples	:
6) 10% of \$7 = \$0.70	discounted price: \$7 -	- \$0.70 = \$6.30	
7) 10% of \$400 = \$40	discounted price: \$40	0 - \$40 = \$360	
8) 10% of \$250 = \$25	discounted price: \$25	0 – \$25 = \$225	
9) 20% of \$9 = \$1.80	discounted price: \$9 -	- \$1.80 = \$7.20	
10) 20% of \$600 = \$120	discounted price: \$60	00 - \$120 = \$480	
Revision: Multiply fraction	ns by whole numbers	Multiply whole numbers	by fractions
¹⁾ $\frac{2}{6}$ of 12 = 4	⁴⁾ $\frac{5}{9}$ of 9 = <u>5</u>	⁷⁾ 24 × $\frac{4}{6} = 16$	¹⁰⁾ 27 × $\frac{6}{9} = 18$
²⁾ $\frac{5}{6}$ of 6 = <u>5</u>	⁵⁾ $\frac{5}{7}$ of 14 = <u>10</u>	⁸⁾ 12 × $\frac{1}{6} = 2$	¹¹⁾ 30 × $\frac{2}{3} = 20$
³⁾ $\frac{3}{4}$ of 48 = <u>36</u>	⁶⁾ $\frac{5}{6}$ of 54 = <u>45</u>	⁹⁾ 30 × $\frac{4}{5} = 24$	¹²⁾ 14 × $\frac{2}{7} = 4$
Insert <, > or =			
$13) \frac{2}{3} = \frac{4}{6}$	¹⁵⁾ $\frac{1}{9} < \frac{1}{3}$	$\frac{17}{4} > \frac{3}{5}$	¹⁹⁾ $\frac{10}{4} > \frac{11}{6}$
$\frac{14}{9} \frac{3}{9} \leq \frac{5}{6}$	$\frac{16}{3} \stackrel{2}{\underline{<}} \frac{11}{12}$	$\frac{18}{3} \frac{7}{4} < 3\frac{1}{3}$	²⁰⁾ $5\frac{1}{5} = \frac{26}{5}$
Addition revision $211 \ 10 \ + \ 6 \ = \ 16$	26) 6 + 8 = 14	Subtraction revision 31) 18 $- 9 = 9$	36) 13 - 9 = 4
22) 6 + 7 = 13	27) $7 + 7 = 14$	32) 9 - 7 = 2	37) 7 - 5 = 2
23) 6 + 4 = 10	28) 5 + 9 = 14	33) 13 – 8 = <u>5</u>	38) 7 - 2 = 5
24) 6 + 6 = <u>12</u>	29) 9 + 9 = <u>18</u>	34) 13 - 6 = <u>7</u>	39) 6 - 3 = <u>3</u>
25) 1 + 6 = $\frac{7}{3}$	30) 10 + 5 = <u>15</u>	35) 17 – 8 = <u>9</u>	40) 14 - 9 = <u>5</u>

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ANSWERS

Percent 50%: Name: Score: 4[A] PROFESSOR PETE'S % Intro 10%+dis 25%+dis 10% 50% inc 1% 0.5% Revision CLASSROOM Common to % 50%+dis 100+% 100+% inc Adv percent Percent of numbers: 50% 50% is the same as a half. E.g. 50% of 68 is the same as half of 68 = 34 50% of 300 is the same as half of 300 = 150 Find 50% of each number: 1) 50% of 50 = 256) 50% of 13 = 6.52) 50% of 62 = 317) 50% of 41 = 20.58) 50% of 80 = 4050% of 90 = 453) 9) 50% of 100 = 50 50% of 30 = 154) 50% of 70 = 3510) 50% of 28 = 145) Find 50% of each of these larger numbers: 11) 50% of 250 = 12516) 50% of 860 = 43012) 50% of 700 = 35017) 50% of 260 = 13013) 50% of 622 = 31118) 50% of 500 = 25014) 50% of 202 = 10119) 50% of 1800 = 90015) 50% of 840 = 42020) 50% of 400 = 200Convert mixed numbers to decimals Convert common fractions to decimals ³¹⁾ $4\frac{9}{25} = 4.36$ ³⁶⁾ $3\frac{4}{5} = 3.8$ ²¹⁾ $\frac{41}{50} = 0.82$ $\frac{26}{20} = 0.6$ ³²⁾ $3\frac{12}{20} = 3.6$ ³⁷⁾ $5\frac{1}{2} = 5.5$ ²⁷⁾ $\frac{19}{20} = 0.95$ $\frac{22}{25} = 0.32$ ³³⁾ $1\frac{3}{20} = 1.15$ ³⁸⁾ $1\frac{8}{25} = 1.32$ ²⁸⁾ $\frac{14}{25} = 0.56$ $\frac{23}{50} = 0.46$ ³⁹⁾ $5\frac{20}{25} = 5.8$ ³⁴⁾ $8\frac{22}{25} = 8.88$ ²⁹⁾ $\frac{11}{20} = 0.55$ $\frac{24}{25} = 0.84$ $\frac{25}{2} = 0.5$ $\frac{30}{25} = 0.04$ 35) $6\frac{8}{20} = 6.4$ $4\frac{5}{20} = 4.25$ Insert <, > or = ⁴¹⁾ $\frac{4}{6} > \frac{3}{9}$ $\frac{43}{3} \frac{1}{3} < \frac{3}{6}$ $\frac{45}{4} = \frac{2}{3}$ $\frac{47}{6} = \frac{8}{3}$ $\frac{42}{3} \frac{1}{3} < \frac{5}{9}$ $\frac{44}{3} \frac{22}{3} < 7\frac{2}{3}$ $\frac{48}{4} = \frac{6}{4} > \frac{2}{3}$ $\frac{46}{4} \frac{7}{4} < 2\frac{3}{4}$ This worksheet is part of the Professor Pete's Classroom eBook "Bring It On! Percentages Worksheets". The recommended teaching sequence is

shown in the bar at the top of this sheet. Have the students record their time taken to complete the page

ANSWERS

Percentages

Name:

Score:

CLASSROOM	% Intro 10%+dis Common to % 50%	25%+dis 10% 50% ind 6+dis 100+% 100	c 1% 0.5% Revision)+% inc Adv percent
Find 50% of each number	:		
1) 50% of 5 = 2.5		6) 50% of 26 = <u>13</u>	
2) 50% of 66 = <u>33</u>		7) 50% of 53 = 26.5	
3) 50% of 69 = 34.5		8) 50% of 90 = <u>45</u>	
4) 50% of 66 = <u>33</u>		9) 50% of 91 = <u>45.5</u>	
5) 50% of 48 = <u>24</u>		10) 50% of 45 = <u>22.5</u>	
Find 50% of each of these	e larger numbers:		
11) 50% of 18 = 9	-	16) 50% of 860 = 4	30
12) 50% of 700 = <u>35</u>	<u>0</u>	17) 50% of 260 = 1	30
13) 50% of 622 = 31	<u>1</u>	18) 50% of 500 = 2	250
14) 50% of 202 = <u>10</u>	<u>1</u>	19) 50% of 16000 =	8000
15) 50% of 8400 = <u>42</u>	00	20) 50% of 40000 = 2	20000
Revision: Find 10% of eac	h of these numbers:		
21) 10% of 589 = 58.9		23) 10% of 5 = <u>0.5</u>	
22) 10% of 29 = <u>2.9</u>		24) 10% of 75 = <u>7.5</u>	
Multiply fractions by whole	e numbers	Multiply whole numbers	s by fractions
$\frac{25}{3}\frac{2}{3}$ of 12 = 8	$\frac{3}{4}$ of 16 = 12	$^{35)}$ 40 × $\frac{5}{10}$ = 20	$^{40)}$ 42 × $\frac{3}{6}$ = 21
²⁶⁾ $\frac{3}{8}$ of 32 = 12	⁽¹⁾ $\frac{1}{5}$ of 40 = 8	$^{36)}$ 35 × $\frac{2}{5}$ = 14	⁴¹⁾ 40 × $\frac{3}{5} = 24$
$\frac{27}{7} \frac{2}{7} \text{ of } 21 = 6$	$\frac{2}{4}$ of 16 = 8	³⁷⁾ 27 × $\frac{3}{9} = 9$	⁴²⁾ 48 × $\frac{1}{4} = 12$
²⁸⁾ $\frac{5}{7}$ of 21 = <u>15</u> 3	$\frac{3}{10} \frac{3}{10}$ of $30 = 9$	³⁸⁾ 48 × $\frac{2}{4} = 24$	⁴³⁾ 8 × $\frac{1}{4} = 2$
$\frac{29}{3} \frac{2}{3}$ of $33 = \frac{22}{3}$	$\frac{4}{10}$ of 50 = <u>20</u>	³⁹⁾ 35 × $\frac{6}{7} = 30$	⁴⁴⁾ 30 × $\frac{1}{5} = 6$
Insert <, > or =			
$45) \frac{4}{6} > \frac{3}{9}$	$\frac{1}{3} \leq \frac{3}{6}$	$\frac{49}{4} \frac{2}{4} < \frac{2}{3}$	$\frac{51}{6} = \frac{8}{3}$
$\binom{46}{3} \frac{1}{3} < \frac{5}{9}$	$\frac{22}{3} \leq 7\frac{2}{3}$	$\frac{50}{4} \frac{7}{4} \leq 2\frac{3}{4}$	$\frac{52}{4} = \frac{2}{3}$

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ANSWERS

Name:	Score:	Percent 50% (discount):	4[C]
PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis 10% 50% inc 1% 0.5% -+dis 100+% 100+% inc Adv	Revision percent
50% discount Taking away 50% is the How much is an item with 50% discount on an item 50% of $30 = 15$ $30 - 15$	same as just finding 5 a 10% discount? n \$30 5 = 15 so just finding hal)% of the original amount. f is enough as this is the amount of the c	discount.
50% discount on an item 50% of 300 = 150	n \$300	, , , , , , , , , , , , , , , , , , ,	
Find the new price if there1)50% discount off \$66	e is a 50% discount: = \$33	6) 50% discount off \$5 = \$2.50	
2) 50% discount off \$48	= \$24	7) 50% discount off \$28 = \$14	
3) 50% discount off \$94	= \$47	8) 50% discount off \$36 = \$18	
4) 50% discount off \$29	= \$14.5	9) 50% discount off \$64 = \$32	
5) 50% discount off \$7 =	= \$3.50	10) 50% discount off \$78 = 39	
Find the new price if there	e is a 50% discount off th	nese larger amounts:	
1) 50% discount off \$646	5 = \$323	6) 50% discount off $360 = 5180$	
2) 50% discount off \$404	1 = \$202	7) 50% discount off \$1000 = \$500	
3) 50% discount off \$460) = \$230	8) 50% discount off \$680 = \$340	
4) 50% discount off \$650) = \$325	9) 50% discount off \$85 = \$42.50)
5) 50% discount off \$25	= \$12.50	10) 50% discount off \$250 = \$125	
Add the fractions ¹⁾ $3\frac{5}{6} + 1\frac{5}{6} = 5\frac{2}{3}$		³⁾ $2\frac{3}{4} + 2\frac{2}{4} = 5\frac{1}{4}$	
²⁾ $5\frac{2}{3} + 5\frac{1}{3} = 11$		⁴⁾ $2\frac{1}{4} + 2\frac{1}{4} = \frac{4\frac{1}{2}}{2}$	
Insert <, > or =			
$\binom{5}{12} \frac{6}{12} > \frac{2}{9}$	7) $2\frac{8}{9} > \frac{25}{9}$	⁹⁾ $4\frac{1}{6} \ge \frac{22}{6}$ ¹¹⁾ $\frac{28}{3} = 9\frac{1}{3}$	
⁶⁾ $4\frac{1}{6} = \frac{25}{6}$	$\frac{11}{12} > \frac{2}{6}$	¹⁰⁾ $\frac{9}{4} < \frac{7}{3}$ ¹²⁾ $\frac{4}{5} < \frac{15}{6}$	

ANSWERS

Nar	ne:	Score:		Percer	nt 50% (d	iscount):	4[D]
ê	PROFESSOR PETE'S	% Intro 10%+dis Common to %	25%+d 50%+dis	lis 10% 100+%	50% inc 100+% ir	1% 0.5% nc Adv	Revision percent
Fin	d the new price if there	e is a 50% discount:					
1)	50% discount off \$88	= \$44	6) 50	0% discour	nt off \$7 =	\$3.50	
2)	50% discount off \$24	= \$12	7) 50	0% discour	nt off \$32 =	\$16	
3)	50% discount off \$76	= \$38	8) 50	0% discour	nt off \$47 =	\$23.50	
4)	50% discount off \$36	= \$18	9) 50	0% discour	nt off \$54 =	\$27	
5)	50% discount off \$9	= \$4.50	10) 50	0% discour	nt off \$25 =	\$12.5	
Fin	d the new price if there	e is a 50% discount c	off these lar	ger amoun	its:		
1)	50% discount off \$242	2 = \$121	6)	50% disc	ount off \$5	40 = \$270	
2)	50% discount off \$68	1 = \$340.50	7)	50% disc	ount off \$2	,000 = \$1,0	00
3)	50% discount off \$67	0 = \$335	8)	50% disc	ount off \$5	05 = \$252.5	50
4)	50% discount off \$264	4 = \$132	9)	50% disc	ount off \$6	6 = \$33	
5)	50% discount off \$42	= \$21	10)	50% disco	ount off \$25	50 = \$125	
Rev	/ision: Find the new p	rice if there is a 10%	discount of	f these larg	ger amount	s:	
1)	10% discount off \$40	0 = \$380	5)	10% disco	unt off \$70	0 = \$630	
2)	10% discount off \$8 =	- \$7.20	6)	10% disco	unt off \$60	= \$54	
3)	10% discount off \$23	0 = \$207	7)	10% disco	unt off \$90	0 = \$810	
4)	10% discount off \$10	0 = \$90	8)	10% disco	unt off \$5,0	00 = \$4,50	00
Cor	vert common fraction	s to decimals	Conve	rt mixed n	umbers to c	decimals	
1)	$\frac{10}{20} = 0.5$	⁴⁾ $\frac{37}{50} = 0.74$	7) <u>1</u> 25	5 = 0.04	10)	$\frac{11}{20} = 0.55$	5
2)	$\frac{7}{20} = 0.35$	⁵⁾ $\frac{1}{2} = 0.5$		= <u>0.15</u>	11)	$\frac{17}{20} = 0.85$	5
3)	$\frac{1}{5} = 0.2$	$\frac{6}{20} = 0.3$	9) <u>16</u> 50	= 0.32	12)	$\frac{4}{5} = 0.8$	
Inse	ert <, > or =		ł L				
13)	$\frac{6}{12} > \frac{2}{9}$	$^{15)} 2\frac{8}{9} \ge \frac{25}{9}$	¹⁷⁾ 4	$\frac{1}{6} > \frac{22}{6}$	19)	$\frac{28}{3} = 9\frac{1}{3}$	
14)	$4\frac{1}{6} = \frac{25}{6}$	$\frac{16}{12} \xrightarrow{2} \frac{2}{6}$	18) <u>9</u> 4 _	$< \frac{7}{3}$	20)	$\frac{4}{5} \leq \frac{15}{6}$	

ANSWERS

Name:	Score:		Percent 25%:	5[A]
PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis 10% 50% %+dis 100+% 100	inc 1% 0.5% 0+% inc Adv pe	Revisie ercent
Percent of numbers: 2 25% is one quarter of a 25% of 36 is the same Finding 25% of a num	25% number. as one quarter of 36 = 9 ber is the same as divid) ing by 4.		
E.g. 25% of 76 = ? (Remember to find a quine 25% of 76: half of 76 is	arter of a larger number y s 38, half of 38 is 19	ou have to halve and the	n halve again.)	
Find 25% of each of the 1) 25% of 8 = <u>2</u>	ese numbers:	6) 25% of 44 = <u>11</u>		
2) 25% of 80 = <u>20</u>		7) 25% of 24 = <u>6</u>		
3) 25% of 40 = <u>10</u>		8) 25% of 60 = <u>15</u>		
4) 25% of 12 = <u>3</u>		9) 25% of 20 = <u>5</u>		
5) 25% of 32 = <u>8</u>		10) 25% of 56 = <u>14</u>		
Find 25% of each of the 11) 25% of 200 = 50	e <mark>se larger numbers:</mark> 0	16) 25% of 120 = <u>3(</u>)	
12) 25% of 600 = <u>15</u>	0	17) 25% of 900 = 225	5	
13) 25% of 880 = 22	0	¹⁸⁾ 25% of 640 = <u>16(</u>	<u>)</u>	
14) 25% of 48 = <u>12</u>		19) 25% of 408 = <u>102</u>	2	
15) 25% of 840 = 21	0	20) 25% of 40 = <u>10</u>		
Revision: Multiply fraction ²¹⁾ $\frac{7}{10}$ of 10 = 7	$\begin{array}{c} \text{ons by whole numbers} \\ 25) \frac{4}{9} \text{of} 9 = \underline{4} \end{array}$	Multiply whole numbers ²⁹⁾ 42 × $\frac{2}{7} = 12$	s by fractions $^{33)} 32 \times \frac{5}{8} = 20$	0
²²⁾ $\frac{1}{3}$ of 21 = 7	²⁶⁾ $\frac{7}{10}$ of 40 = 28	$^{30)}$ 48 × $\frac{1}{3}$ = 16	$34)$ 18 × $\frac{6}{9}$ = 12	2
²³⁾ $\frac{2}{5}$ of 30 = 12	$\frac{27}{5} = \frac{18}{18}$	31) $6 \times \frac{1}{2} = 3$	$35) 30 \times \frac{9}{10} = 2$	27
²⁴⁾ $\frac{7}{8}$ of 8 = 7	²⁸⁾ $\frac{5}{9}$ of 27 = 15	$^{32)}$ 56 × $\frac{5}{8} = 35$	$36) 32 \times \frac{1}{2} = 16$	3
Insert <, > or =		J L		
$\binom{37}{3} \frac{2}{3} = \frac{8}{12}$	$\frac{39}{12} \frac{1}{3}$	⁴¹⁾ $5\frac{2}{3} = \frac{17}{3}$	$\frac{43}{3} \frac{2}{4}$	
$\frac{38}{12} = \frac{2}{3}$	40) $\frac{1}{6}$ < $\frac{6}{9}$	$\frac{42}{5} \frac{28}{5} < 5\frac{4}{5}$	$\frac{44}{6} = 2\frac{3}{6}$	
ANSWERS

Percentages

Name:

Score:

Percent 25%: 5 [B]

PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis 10% 5 %+dis 100+%	inc 1% 0.5% Revisio 100+% inc Adv percent
Find 25% of each of these	numbers:		
1) 25% of 28 = <u>7</u>		6) 25% of 96 =	24
2) 25% of 16 = <u>4</u>		7) 25% of 100 =	25
3) 25% of 36 = <u>9</u>		8) 25% of 64 =	16
4) 25% of 72 = <u>18</u>		9) 25% of 48 =	12
5) 25% of 84 = <u>21</u>		10) 25% of 50 = 1	2.5
Find 25% of each of these	larger numbers:		
11) 25% of 200 = 50		16) 25% of 120 =	30
12) 25% of 600 = 150		17) 25% of 900 =	225
13) 25% of 880 = 220		18) 25% of 640 =	160
14) 25% of 44 = <u>11</u>		19) 25% of 432 =	108
15) 25% of 840 = <u>210</u>		20) 25% of 40 =	10
Find 10% of each of these	larger numbers:		
21) 10% of 40 = <u>4</u>	Ū	24) 10% of 600 =	60
22) 10% of 533 = <u>53.3</u>		25) 10% of 75 =	7.5
23) 10% of 709 = <u>70.9</u>		26) 10% of 2 = <u>C</u>	.2
Subtract the fractions			
$^{27)}$ $8\frac{2}{4}$ $^{28)}$ 7	$\frac{6}{10}$ 29) $7\frac{3}{5}$	$9\frac{1}{3}$ $31)$	$8\frac{8}{10}$ $^{32)}$ $9\frac{1}{6}$
$-2\frac{3}{4}$ - 7	$\frac{3}{42}$ - $3\frac{4}{5}$	$-2\frac{2}{2}$	$-1\frac{9}{10}$ $-7\frac{5}{2}$
	$\frac{10}{3}$ $-\frac{5}{24}$	$-\frac{3}{2}$	$\frac{10}{9}$ $\frac{16}{1}$
	$\overline{10}$ $3\overline{5}$	<u> </u>	$-\frac{\overline{0}}{10}$ $-\frac{\overline{1}}{3}$
Insert <, > or =			
$33) \frac{7}{12} < \frac{4}{6}$	$^{36)} \frac{2}{3} > \frac{4}{9}$	$\frac{39}{6} \xrightarrow{14} \frac{7}{4}$	$\frac{42}{6} \frac{11}{5} > \frac{1}{4}$
$ ^{34)} \frac{2}{9} < \frac{10}{12}$	$\frac{11}{3} = 3\frac{2}{3}$	$40) \frac{4}{6} > \frac{2}{5}$	$43) \frac{6}{5} > \frac{1}{4}$
3 - 12 35) 3 - 1	13 <u> </u>	41) <u>7</u> <u>4</u>	$\begin{array}{c} 3 \\ 44 \end{array} \\ 44 \end{array} \\ 3 \\ 22 \\ 22 \\ 3 \\ 22 \\ 3 \\ 22 \\ 3 \\ 3$
12 _ 3	<u>6</u> <u>-</u> <u>3</u>	5 <u>5</u>	$\frac{4}{5} - \frac{5}{5}$

ANSWERS

Name:	Score:		Perce	nt 25% (dis	count): 5 [C]
PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25% +dis	6 <u>+dis</u> 10 100+%	% 50% inc 100+% inc	1% 0.5% Revisi Adv percent
25% Discount Questions First find 25%. Then take How much is an item with	s this away from the or a 25% discount?	iginal	amount.		
25% discount on an item 25% of \$80 = \$20 \$80 - 25% discount on an item 25% of \$320 = \$80 \$32	priced at \$80 - \$20 = \$60 • \$320 20 – \$80 = \$240				
Find the new price if there	is a 25% discount:				
1) 25% discount off \$60 =	= \$45	6)	25% discou	int off \$8 = \$	6
2) 25% discount off \$100	= \$75	7)	25% discou	int off \$16 =	\$12
3) 25% discount off \$40 =	= \$30	8)	25% discou	int off \$36 =	\$27
4) 25% discount off \$88 =	= \$22	9)	25% discou	int off \$24 =	\$18
5) 25% discount off \$20	= \$15	10) 2	25% discou	nt off \$32 = \$	524
Find the new price if there	is a 25% discount off th	nese la	arger amour	nts:	
1) 25% discount off \$200	= \$150	6) 25% disc	count off \$120	= \$80
2) 25% discount off \$600	= \$450	7) 25% disc	count off \$1,00	00 = \$750
3) 25% discount off \$880) = \$660	8) 25% disc	ount off \$400	= \$300
4) 25% discount off \$800	= \$600	9)	25% disc	ount off \$2,00	0 = \$1,500
5) 25% discount off \$40	= \$30	10) 25% disc	ount off \$8,00	0 = \$6,000
Multiply fractions by whole ¹⁾ $\frac{2}{3}$ of 45 = <u>30</u> ⁴	$\frac{1}{8} \text{ of } 24 = 3$	Multi ⁷⁾ 2	ply whole n 40 × $\frac{1}{2}$ =	umbers by frac 20	$\begin{array}{l} \text{ctions} \\ 0 \times \frac{8}{10} = \underline{8} \end{array}$
²⁾ $\frac{1}{3}$ of 12 = <u>4</u> ⁵	$\frac{1}{4}$ of 8 = 2	8) .	$15 \times \frac{3}{5} = \frac{9}{5}$	9 ¹¹⁾ 3	$2 \times \frac{1}{2} = 16$
³⁾ $\frac{3}{4}$ of 16 = <u>12</u> ⁶	$\frac{4}{5}$ of 30 = <u>24</u>	⁹⁾ 6	$5 \times \frac{1}{3} = 2$	¹²⁾ 2	$8 \times \frac{2}{7} = 8$
Insert <, > or =					
$13) \frac{4}{9} < \frac{8}{12}$	$\frac{5}{6} \xrightarrow{} \frac{8}{12}$	17) <u>1</u> 3		¹⁹⁾ 3	$\frac{1}{4} \leq \frac{31}{4}$
$14) \frac{2}{12} < \frac{1}{3}$ 16	$\frac{3}{9} \frac{46}{9} = 5\frac{1}{9}$	18) <u>4</u> 6	< ⁸ / ₃	20) <u>1</u> <u>3</u>	$\leq \frac{5}{4}$

ANSWERS

Nai	ne:	Score:		Percer	ıt 25% (dis	count):	5[D]
Ê	PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25% +dis	<u>+dis</u> 109 100+%	% 50% inc 100+% inc	1% 0.5% Adv pe	Revisio ercent
Fin	d the new price if there	is a 25% discount:					
1)	25% discount off \$60 :	= \$45	6)	25% discou	nt off \$8 =	\$6	
2)	25% discount off \$100) = \$75	7)	25% discou	int off \$16 =	\$12	
3)	25% discount off \$40 =	= \$30	8)	25% discou	nt off \$36 =	\$27	
4)	25% discount off \$88 :	= \$66	9)	25% discou	nt off \$24 =	\$18	
5)	25% discount off \$20	= \$15	10)	25% discou	nt off \$32 =	\$24	
Fin	d the new price if there	is a 25% discount off th	nese la	rger amoun	ts:		
1)	25% discount off \$200) = \$150	6)	25% disc	ount off \$120)= \$80	
2)	25% discount off \$600) = \$450	7)	25% disco	ount off \$1,00	00 = \$750	
3)	25% discount off \$880) = \$660	8)	25% disco	ount off \$4,00	00 = \$3,00	0
4)	25% discount off \$32 =	= \$24	9)	25% disco	ount off \$40,0	000 = \$30,	000
5)	25% discount off \$1 =	[:] \$0.75	10)	25% disc	ount off \$10	= \$7.50	
Re	vision: Find the new pri	ice if there is a 10% disc	ount o	ff these larg	jer amounts:		
1)	10% discount off \$450) = \$405	5)	10% disco	ount off \$300	= \$270	
2)	10% discount off \$6 =	\$5.40	6)	10% disco	ount off \$30 =	= \$27	
3)	10% discount off \$240) = \$216	7)	10% disco	ount off \$9,00	00 = \$8,1	00
4)	10% discount off \$2,00	00 = \$1,800	8)	10% disc	ount off \$150	= \$135	
Mu	Itiply fractions by whole	numbers	Multi	oly whole nu	mbers by fra	ctions	
1)	$\frac{2}{10}$ of 10 = 2	$\frac{1}{3}$ of 21 = <u>14</u>	⁷⁾ 4	$-8 \times \frac{3}{6} = 2$. <mark>4</mark> ¹⁰⁾ 2	$20 \times \frac{4}{10} =$	8
2)	$\frac{5}{8}$ of 32 = 20 5	$\frac{2}{5}$ of 25 = 10	⁸⁾ 4	$9 \times \frac{3}{7} = 2$: 1 ¹¹⁾ 3	$32 \times \frac{5}{8} =$	20
3)	$\frac{2}{9}$ of 9 = 2	$\frac{5}{10}$ of 40 = 20	⁹⁾ 7	$\frac{4}{7} \times \frac{4}{7} = 4$	¹²⁾ 5	$50 \times \frac{4}{5} =$	40
Ins	ert <, > or =						
13)	$\frac{13}{12} < 1\frac{3}{12}$	$\frac{5}{9} \frac{19}{9} > 1\frac{8}{9}$	17) <u>1</u> 5	< <u>9</u> 4	19) <u>16</u> 6	$\frac{5}{2} > 2\frac{2}{6}$	
14)	$\frac{4}{9} < \frac{7}{12}$ 10	$\frac{3}{2} > \frac{2}{6}$	18) <u>9</u>	$> \frac{6}{5}$	20) 11	$\frac{1}{2} > \frac{5}{3}$	
	v — 12	· — ·					

ANSWERS

Percentages

Name:	Score:		Percent 100%+:	6[A]
PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis 10% 50 %+dis 100+%	0% inc 1% 0.5% 100+% inc Adv pe	Revision rcent
Percent of numbers: 100 100% is the whole numbe 100% of 45 is 45; it's eas Finding 200% is all of it E.g. 200% of 30; is 2 x 3	9% r. sy! multiplied by 2. 80 = 60			
300% of 50; is 3 x 50 = 1	50			
Find 100% or greater of ea 1) 100% of 5 =5	ach of these numbers:	6) 100% of 67 =	67	
2) 200% of 80 = <u>160</u>		7) 200% of 24 =	48	
3) 100% of 78 = <u>78</u>		8) 600% of 20 =	120	
4) 300% of 70 = <u>210</u>		9) 500% of 20 =	100	
5) 200% of 32 = <u>64</u>		10) 800% of 6 = _	48	
150% is 100%+ 50% so 150% of 40 = ?	40 + ½ of 40 = 60			
Find 150% of each of thes	e larger numbers:			
11) 150% of 200 = 300		¹⁶⁾ 150% of 120	= <u>180</u>	
12) 150% of $600 = 900$		17) 150% of 300	= 450	
13) 150% of 80 = 120		18) 150% of 100	= <u>150</u>	
14) 150% of 40 = 60		19) 150% of 30 =	45	
15) 150% of 200 = <u>300</u>		20) 150% of 50 =	75	
Revision: Multiply fraction $2^{(1)}$ $\frac{3}{4}$ of 8 = 6	s by whole numbers $\frac{6}{9}$ of 45 = 30	Multiply whole num $27)$ 30 × $\frac{9}{10}$ = 2	$7 \qquad \begin{array}{c} \text{abers by fractions} \\ 30 \\ 49 \\ \times \\ \frac{3}{7} \\ \end{array} = 2$	21
²²⁾ $\frac{1}{5}$ of 25 = 5	⁵⁾ $\frac{1}{6}$ of 12 = 2	²⁸⁾ 20 × $\frac{5}{10}$ = 1	$0 \qquad {}^{31)} 40 \times \frac{3}{4} = 3$	30
²³⁾ $\frac{5}{7}$ of 14 = <u>10</u> ²⁰	⁶⁾ $\frac{5}{10}$ of 10 = <u>5</u>	²⁹⁾ 16 × $\frac{2}{4} = \frac{8}{100}$	$32)$ 36 × $\frac{4}{9} = -$	16
Insert <, > or =	5) 10 1	37) - 2 17	39) 2 4	
$\frac{3}{3} = \frac{3}{12}$	$\frac{10}{12} > \frac{1}{3}$	$5\frac{1}{3} = \frac{1}{3}$	$\frac{50}{3} - \frac{7}{3}$	
$ \begin{array}{c} 34) \\ \underline{8} \\ \underline{12} \\ \underline{-} \\ \underline{3} \end{array} $ 3	$\frac{6}{6} \frac{1}{6} < \frac{6}{9}$	$\frac{38}{5} \frac{28}{5} < 5\frac{4}{5}$	$\frac{40}{6} = 2\frac{3}{6}$	

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ANSWERS

Score:

Percentages

Name:

Percent 100%+:	6 [B]	
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ê	PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis 10% 50% inc 1% 0.5% Revision 6+dis 100+% 100+% inc Adv percent
Fin	d 100% or greater of ea	ch of these numbers:	
1)	100% of 90 = 90		9) 100% of 85 = <u>85</u>
2)	200% of 5 = 10		10) 200% of 45 = <u>90</u>
3)	200% of 62 = 124		11) 1,000% of 65 = 650
4)	100% of 83 = <u>83</u>		12) 500% of 30 = <u>150</u>
5)	300% of 50 = <u>150</u>		13) 100% of 86 = <u>86</u>
6)	500% of 600 = 3000)	14) 1,000% of 43 = 430
7)	1,000% of 8 = <u>80</u>	-	15) 100% of 59 = <u>59</u>
8)	500% of 51 = <u>255</u>		16) 700% of 20 = <u>140</u>
Fin	d 150% of each of thes	e larger numbers:	
17)	150% of 300 = <u>450</u>)	24) 150% of 50 = <u>75</u>
18)	150% of 500 = 750	<u>)</u>	25) 150% of 40 = <u>60</u>
19)	150% of 600 = <u>900</u>	<u>)</u>	26) 150% of 200 = <u>300</u>
20)	150% of 4 = <u>6</u>		27) 150% of 6 = <u>9</u>
21)	150% of 2 = <u>3</u>		28) 150% of 40 = <u>60</u>
22)	150% of 60 = <u>90</u>		29) 150% of 800 = 1200
23)	150% of 600 = <u>900</u>	<u>)</u>	30) 150% of 1000 = 1500
Sub frac	otract the fractions (cha ctions where necessary)	nge to improper)	Add the fractions
31)	$9\frac{6}{12}$ ³²⁾ 5	$\frac{4}{6}$ $\frac{33}{9\frac{1}{3}}$	$34)$ $1\frac{6}{2}$ $35)$ $3\frac{3}{2}$ $36)$ $4\frac{2}{2}$
	$-4^{\frac{9}{9}} - 4$	$\frac{5}{5}$ _ $8^{\frac{2}{2}}$	
	$\frac{12}{3}$	$\frac{6}{5}$ $\frac{3}{2}$	$\frac{+ 3\overline{8}}{7} \qquad \frac{+ 3\overline{4}}{4} \qquad \frac{+ 3\overline{6}}{4}$
	<u>4</u> <u>4</u>	<u>6</u> <u>3</u>	$\begin{vmatrix} -\frac{6\frac{7}{8}}{8} & -\frac{9\frac{1}{4}}{4} & -\frac{10\frac{1}{6}}{8} \end{vmatrix}$
Εαι	livalent fractions		
37)	$\frac{1}{2} = \frac{6}{12} = \frac{5}{10}$ 38	$\frac{4}{5} = \frac{36}{45} = \frac{40}{50}$	³⁹⁾ $\frac{3}{5} = \frac{6}{10} = \frac{21}{35}$ ⁴⁰⁾ $\frac{1}{2} = \frac{6}{12} = \frac{9}{18}$

ANSWERS

Score:

Percentages

Name:

Percent 100%+: 6 [C]

ê	PROFESSOR PETE'S% Intro10%+disCLASSROOMCommon to %50%	25%+dis 10% 50% inc 1% 0.5% Revision %+dis 100+% 100+% inc Adv percent
Fin	d 100% or greater of each of these numbers:	
1)	100% of 82 = 82	9) 500% of 8 = <u>40</u>
2)	200% of 60 = 120	10) 200% of 50 = <u>100</u>
3)	300% of 100 = 300	11) 300% of 70 = 210
4)	1,000% of $20 = 200$	12) 600% of 10 = <u>60</u>
5)	100% of 46 = 46	13) 1,000% of 3 = <u>30</u>
6)	200% of 45 = 90	14) 200% of 20 = <u>40</u>
7)	200% of $200 = 400$	15) 600% of 8 = <u>48</u>
8)	$300\% \text{ of } 800 = \underline{2400}$	16) 300% of 40 = <u>120</u>
Fin	d 150% of each of these larger numbers:	
17)	150% of 300 = 450	24) 150% of 50 = <u>75</u>
18)	150% of 500 = <u>750</u>	25) 150% of 40 = <u>60</u>
19)	150% of 600 = 900	26) 150% of 200 = <u>300</u>
20)	150% of $4 = 6$	27) 150% of 6 = <u>9</u>
21)	150% of 2 = 3	28) 150% of 40 = <u>60</u>
22)	150% of 60 = <u>90</u>	29) 150% of 800 = <u>1200</u>
23)	150% of 600 = <u>900</u>	30) 150% of 1000 = 1500
Rev	ision: Multiply fractions by whole numbers	Multiply whole numbers by fractions
31)	$\frac{2}{3}$ of 21 = 14 $\frac{34}{3}$ $\frac{2}{3}$ of 12 = 8	$^{37)}$ 45 × $\frac{4}{9} = 20$ $^{40)}$ 12 × $\frac{2}{3} = 8$
32)	$\frac{8}{9}$ of 9 = 8 $\frac{35}{4}$ of 36 = 18	$38)$ 36 × $\frac{3}{4} = 27$ 41) 14 × $\frac{3}{7} = 6$
33)	$\frac{2}{4}$ of 40 = 20 $\frac{36}{10}$ $\frac{2}{10}$ of 20 = 4	$39) 24 \times \frac{1}{3} = 8 \qquad 42) 27 \times \frac{2}{3} = 18$
Ins	ert <. > or =	
43)	$\frac{6}{9} \ge \frac{1}{6}$ $\frac{45}{5} \frac{15}{5} \ge 2\frac{4}{5}$	$47) \frac{4}{6} < \frac{8}{3}$ $49) \frac{1}{3} < \frac{6}{4}$
44)	$\frac{5}{6} < \frac{8}{9} \qquad \qquad \begin{array}{c} 46 \\ 3 \\ 6 \\ \end{array} > \frac{3}{9} \end{array}$	⁴⁸⁾ $5\frac{3}{5} \leq \frac{29}{5}$ ⁵⁰⁾ $\frac{16}{6} \geq \frac{9}{4}$

ANSWERS

Score:

Percentages

Name:

Percent 100%+: 6 [D]

3	PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis 10% 50% inc 1% 0.5% Revision +dis 100+% 100+% inc Adv percent
Fin	d 100% or greater of ea	ch of these numbers:	
1)	100% of $75 = 75$		9) 300% of $30 = 90$
2)	200% of 80 = 160		10) 500% of 9 = <u>45</u>
3)	300% of 50 = 150		11) 700% of 60 = 420
4)	100% of 44 = <u>44</u>		12) 300% of 7 = 21
5)	200% of 60 = 120		13) 600% of 10 = <u>60</u>
6)	1,000% of 5 = 50		14) 1,000% of 36 = <u>360</u>
7)	200% of 90 = <u>180</u>		15) 300% of 40 = <u>120</u>
8)	500% of 70 = 350		16) 600% of 20 = <u>120</u>
Fin	d 150% of each of these	e larger numbers:	
17)	150% of 3 = 4.5		24) 150% of 20 = <u>30</u>
18)	150% of 500 = <u>750</u>	<u>)</u>	25) 150% of 30 = <u>45</u>
19)	150% of 1 = 1.5		26) 150% of 4 = <u>6</u>
20)	150% of 100 = <u>150</u>	<u>)</u>	27) 150% of 100 = <u>150</u>
21)	150% of 40 = <u>60</u>		28) 150% of 30 = <u>45</u>
22)	150% of 500 = 750	<u>)</u>	29) 150% of 80 = <u>120</u>
23)	150% of 800 = <u>1200</u>	<u>)</u>	30) 150% of 40 = 60
Sub frac	otract the fractions (cha tions where necessary)	nge to improper	Add the fractions
31)	$8\frac{10}{12}$ ³²⁾ 9	$\frac{6}{8}$ $\frac{33}{9}$ $9\frac{8}{12}$	$3^{34)}$ $3^{\frac{7}{2}}$ $3^{\frac{35}{2}}$ $2^{\frac{8}{2}}$ $3^{\frac{36}{2}}$ $1^{\frac{5}{2}}$
	-1^{12} -8	$\frac{7}{2}$ - $6\frac{10}{2}$	
	$\frac{12}{2}$ $\frac{-0}{2}$	$\frac{8}{7}$ $\frac{-0}{2}$	$+ 2\frac{-}{8} + 5\frac{-}{9} + 2\frac{-}{9}$
	6 <u>12</u>	$\frac{1}{8}$ $2\frac{1}{6}$	$\frac{-6\frac{5}{8}}{\frac{1}{9}} = \frac{-4\frac{1}{3}}{\frac{1}{3}}$
Inse	ert <, > or =		
37)	$\frac{4}{9} \stackrel{<}{-} \frac{9}{12}$ 38	$\frac{4}{6} = \frac{6}{9}$	³⁹⁾ $4\frac{3}{6} = \frac{27}{6}$ ⁴⁰⁾ $\frac{1}{5} < \frac{1}{3}$
_			

ANSWERS

Name:	Score:	Percent 10% (increase): 7 [A]				
PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis 10% 50% inc. 1% 0.5% Revision +dis 100+% 100+% inc. Adv percent				
10% Increase Questions First find 10%. Then add this to the original amount. What is the amount with a 10% increase?						
10% increase to \$50 10% of \$50 = \$5 \$50 +	\$5 = \$55					
10% increase to \$400 10% of \$400 = \$40 \$40	00 + \$40 = \$440					
Find the new price if there	e is a 10% increase: = \$33	6) 10% increase on \$70 = \$77				
 10% increase on \$20 	= \$22	7) 10% increase on \$90 = \$99				
 3) 10% increase on \$40 	= \$44	8) 10% increase on $10 = 11$				
4) 10% increase on \$80	= \$88	9) 10% increase on \$50 = \$55				
5) 10% increase on \$70	= \$77	10) 10% increase on \$100 = \$110				
Find the new price if there	e is a 10% increase on th	ese larger amounts:				
1) 10% increase on \$300) = \$330	6) 10% increase on \$700 = \$770				
2) 10% increase on \$200) = \$220	7) 10% increase on \$510 = \$561				
3) 10% increase on \$450) = \$495	8) 10% increase on \$650 = \$715				
4) 10% increase on \$900) = \$990	9) 10% increase on \$250 = \$275				
5) 10% increase on \$500) = \$550	10) 10% increase on \$350 = \$385				
Revision: Multiply fraction ¹⁾ $\frac{3}{7}$ of 28 = 12	s by whole numbers $\frac{2}{3}$ of $30 = 20$	Multiply whole numbers by fractions ⁷⁾ 9 × $\frac{2}{3} = 6$ ¹⁰⁾ 42 × $\frac{5}{8} = 26\frac{1}{4}$				
²⁾ $\frac{2}{4}$ of 40 = 20 ⁵	$\frac{3}{4}$ of 36 = 27	⁸⁾ 40 × $\frac{4}{8}$ = 20 ¹¹⁾ 20 × $\frac{1}{5}$ = 4				
³⁾ $\frac{2}{5}$ of 35 = 14	$\frac{2}{5}$ of $30 = 12$	⁹⁾ 81 × $\frac{2}{9} = 18$ ¹²⁾ 36 × $\frac{3}{6} = 18$				
Insert <, > or =						
$\begin{vmatrix} 13 \\ 12 \\ -1 \\ -1 \\ 3 \end{vmatrix} = 1$	$\frac{19}{9} < 2\frac{2}{9}$	${}^{17)} \frac{2}{4} < \frac{2}{3} \qquad {}^{19)} \frac{14}{6} < \frac{8}{3}$				
$^{14)}\frac{9}{3} \leq 3\frac{1}{3}$	$^{6)} \frac{3}{9} \stackrel{<}{-} \frac{2}{3}$	¹⁸⁾ $1\frac{1}{4} = \frac{10}{8}$ ²⁰⁾ $\frac{6}{4} > \frac{2}{3}$				
This workshoot is part of the Drofessor	Datala Classes and Daals "Dring It Or	N Deveenteerse W/subsects". The recommended teaching converses is				

ANSWERS

Name:	Score:	Percent 10%	6 (increase): 7 [B]
PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis <u>10% 50% inc</u> +dis 100+% 100 ⁻	1% 0.5% Revision +% inc Adv percent
Find the new amount if the	re is a 10% increase on	these amounts:	
1) 10% increase on 50 =	\$55	6) 10% increase on 7	70 = \$77
2) 10% increase on 90 =	\$99	7) 10% increase on 2	20 = \$22
3) 10% increase on 10 =	\$11	8) 10% increase on 6	30 = \$66
4) 10% increase on 80 =	\$88	9) 10% increase on 4	40 = \$44
5) 10% increase on 30 =	\$33	10) 10% increase on 1	00 = \$110
Find the new amount if the	re is a 10% increase on	these larger amounts:	
1) 10% increase on \$300	= \$330	6) 10% increase or	n \$500 = \$550
2) 10% increase on \$25 =	\$27.50	7) 10% increase or	n \$45 = \$49.50
3) 10% increase on \$360	= \$396	8) 10% increase or	n \$180 = \$198
4) 10% increase on \$450	= \$495	9) 10% increase or	n \$750 = \$825
5) 10% increase on \$7,00	0 = \$7,700	10) 10% increase or	n \$2,500 = \$2,750
Subtract the fractions (char fractions where necessary)	ige to improper	Add the fractions	
$^{1)}$ $8\frac{2}{2}$ $^{2)}$ $9\frac{1}{2}$	$\frac{7}{12}$ ³⁾ $9\frac{7}{10}$	⁴⁾ $5^{\frac{1}{5}}$	$5^{\frac{1}{6}}$ $2^{\frac{2}{2}}$
$-2\frac{1}{2}$ -7	$\frac{8}{2} - 8\frac{8}{3}$		a_3 a_5
-3 -1	$\frac{2}{1}$ $\frac{3}{9}$	$+ 4\frac{-}{4}$ +	$\frac{4\overline{3}}{3}$ $\frac{+4\overline{5}}{3}$
$\frac{6\frac{1}{3}}{1}$	$\frac{1}{2}$ $\frac{1}{10}$	10	$9\frac{2}{3}$ $6\frac{4}{5}$
Incort < > or =			
$7) \frac{8}{9} \ge \frac{6}{9}$ 9)	$\frac{13}{12} < 1\frac{4}{12}$	¹¹⁾ $4\frac{5}{6} = \frac{29}{6}$	$\frac{13}{3} \frac{8}{3} > 2\frac{1}{3}$
$8) \frac{2}{2} > \frac{5}{10}$	$\frac{5}{2} < \frac{5}{2}$	$^{12)}\frac{8}{2} > \frac{5}{2}$	¹⁴⁾ $4\frac{3}{4} < \frac{43}{4}$
3 12	9 6	3 6	· 4 <u> </u>
Equivalent fractions			
$\begin{bmatrix} 15 \\ 2 \\ 4 \end{bmatrix} = \frac{18}{36} = \frac{14}{28} $ 17	$\frac{1}{3} = \frac{8}{24} = \frac{9}{27}$	¹⁹⁾ $\frac{4}{6} = \frac{16}{24} = \frac{40}{60}$	${}^{21)} \ \frac{2}{3} = \frac{16}{24} = \frac{20}{30}$
$\begin{vmatrix} 16 \\ \frac{2}{3} \\ \frac{2}{3} \\ \frac{6}{9} \\ \frac{4}{6} \end{vmatrix} = \frac{4}{6} $	$\frac{1}{2} = \frac{8}{16} = \frac{7}{14}$	${}^{20)} \ \frac{2}{5} = \frac{20}{50} = \frac{12}{30}$	²²⁾ $\frac{2}{3} = \frac{18}{27} = \frac{8}{12}$

ANSWERS

Name:	Score:	Percent 50% inc	rease: 7[C]			
PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis <u>10% 50% inc</u> 1% %+dis 100+% 100+% inc	6 0.5% Revision Adv percent			
50% Increase Questions First find 50%. Then add this to the original amount. What is the amount with a 50% increase?						
50% increase to \$60 (It i 50% of \$60 = \$30 \$60	<mark>s adding half of the ori</mark> + \$30 = \$90	ginal amount).				
50% increase to \$40050% of \$200 = \$100\$2	200 + \$100 = \$300					
Find the new price if there	e is a 50% increase: = \$45	6) 50% increase on \$70 =	\$105			
 2) 50% increase on \$20 	= \$30	 50% increase on \$90 = 	\$135			
 3) 50% increase on \$50 	= \$75	 8) 50% increase on \$10 = 	\$15			
4) 50% increase on \$80	= \$120	9) 50% increase on \$40 =	\$60			
5) 50% increase on \$60	= \$90	10) 50% increase on \$100 =	\$150			
Find the new price if there	e is a 50% increase on th	ese larger amounts:				
1) 50% increase on \$300	0 = \$450	6) 50% increase on \$700) = \$1,050			
2) 50% increase on \$200	0 = \$300	7) 50% increase on \$500) = \$750			
3) 50% increase on \$240	0 = \$360	8) 50% increase on \$620) = \$930			
4) 50% increase on \$800	0 = \$1,200	9) 50% increase on \$4,0	00 = \$6,000			
5) 50% increase on \$400	0 = \$600	10) 50% increase on \$1,00)0 = \$1,500			
Revision: Multiply fraction ¹⁾ $\frac{3}{7}$ of 28 = 12	⁴⁾ $\frac{3}{5}$ of $45 = 27$	Multiply whole numbers by frac ⁷⁾ 9 × $\frac{2}{3} = 6$ ¹⁰⁾ 8	$\frac{\text{tions}}{\times \frac{5}{8} = 5}$			
²⁾ $\frac{2}{4}$ of 40 = 20	⁵⁾ $\frac{2}{9}$ of 36 = 8	⁸⁾ 40 × $\frac{4}{8}$ = 20 ¹¹⁾ 20	$3 \times \frac{1}{5} = 4$			
³⁾ $\frac{2}{5}$ of 35 = 14	⁶⁾ $\frac{4}{5}$ of 30 = 24	⁹⁾ 9 × $\frac{2}{3} = 6$ ¹²⁾ 36	$3 \times \frac{4}{6} = 24$			
Insert <, > or =						
$\begin{vmatrix} 13 \end{pmatrix} \frac{1}{12} < \frac{1}{3}$	$\frac{19}{9} \leq 2\frac{2}{9}$	¹⁷⁾ $\frac{2}{4} < \frac{2}{3}$ ¹⁹⁾ $\frac{14}{6}$	$\frac{<}{3}$			
$^{14)}\frac{9}{3} \leq 3\frac{1}{3}$	$^{(6)} \frac{3}{9} \stackrel{<}{-} \frac{2}{3}$	¹⁸⁾ $1\frac{1}{4} = \frac{10}{8}$ ²⁰⁾ $\frac{6}{4}$	$> \frac{2}{3}$			

ANSWERS

Name:	Score:	Percent 50%	(increase): 7 [D]
PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis <u>10% 50% inc</u> 5+dis 100+% 100+%	1% 0.5% Revision inc Adv percent
Find the new amount if the	re is a 50% increase on	these amounts:	
1) 50% increase on \$40 =	= \$60	6) 50% increase on \$80	0 = \$120
2) 50% increase on \$10 =	= \$15	7) 50% increase on \$60	D = \$90
3) 50% increase on \$50 =	= \$75	8) 50% increase on \$70	D = \$106
4) 50% increase on \$20 =	= \$30	9) 50% increase on \$90	D = \$135
5) 50% increase on \$30 =	= \$45	10) 50% increase on \$10	00 = \$150
Find the new amount if the	re is a 50% increase on	these larger amounts:	
1) 50% increase on \$200	= \$300	6) 50% increase on S	\$800 = \$1,200
2) 50% increase on \$400	= \$600	7) 50% increase on S	\$420 = \$630
3) 50% increase on \$500	= \$750	8) 50% increase on S	\$6,200 = \$9,300
4) 50% increase on \$450	= \$675	9) 50% increase on S	\$5,000 = \$7,500
5) 50% increase on \$900	= \$1,350	10) 50% increase on \$2	2,000 = \$3,000
Subtract the fractions (char fractions where necessary)	nge to improper	Add the fractions	
1^{1} $8\frac{2}{3}$ 2^{2} $9\frac{1}{3}$	$\frac{7}{12}$ ³⁾ $9\frac{7}{10}$	$4^{4)}$ $5\frac{1}{4}$ $5^{5)}$ $5^{5)}$	$\frac{1}{2}$ ⁶⁾ $2\frac{2}{5}$
$-2\frac{1}{2}$ $-7\frac{1}{2}$	$\frac{8}{12}$ - $8\frac{8}{10}$	$+ 4\frac{3}{4} + 4$	$\frac{1}{2} + 4^{\frac{2}{2}}$
$\frac{-3}{6^{-1}}$ -1	$\frac{12}{11} \qquad \frac{10}{9}$	$\frac{1}{4}$	$\frac{3}{2}$ $\frac{1}{2}$ $\frac{1}{2}$
$-\frac{0}{3}$	<u>12</u> <u>10</u>		
Insert <. > or =		L	
$\begin{array}{c} 7 \\ 7 \\ 9 \\ \hline 9 \hline$	$\frac{13}{12} < 1\frac{4}{12}$	¹¹⁾ $4\frac{5}{6} = \frac{29}{6}$ ¹	$\frac{3}{3} \frac{8}{3} > 2\frac{1}{3}$
$\binom{8}{2} \frac{2}{3} > \frac{5}{12}$ 10	$\frac{5}{6} < \frac{5}{6}$	$\frac{12}{3} \frac{8}{3} > \frac{5}{6}$ 1	⁴⁾ $4\frac{3}{4} < \frac{43}{4}$
J 1Z	J U	5 0	4 4
Equivalent fractions			
$\begin{vmatrix} 15 \\ 2 \\ 4 \end{vmatrix} = \frac{18}{36} = \frac{14}{28} \qquad 17$	$\frac{1}{3} = \frac{8}{24} = \frac{9}{27}$	¹⁹⁾ $\frac{4}{6} = \frac{16}{24} = \frac{40}{60}$ ²	¹⁾ $\frac{2}{3} = \frac{16}{24} = \frac{20}{30}$
$\begin{vmatrix} 16 \\ \frac{2}{3} \\ \frac{2}{3} \\ \frac{6}{9} \\ \frac{4}{6} \end{vmatrix} = \frac{4}{6} $ 18	$\frac{1}{2} = \frac{8}{16} = \frac{7}{14}$	²⁰⁾ $\frac{2}{5} = \frac{20}{50} = \frac{12}{30}$ ²	²⁾ $\frac{2}{3} = \frac{18}{27} = \frac{8}{12}$
		·	

ANSWERS

Percent 100% (increase):

8[A]

Name:

PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis 10% 50% ind 5+dis 100+% 100	c 1% 0.5% Revision +% inc Adv percent
100% Increase Question 100% is the whole amou the original amount. What is the amount with a	ns unt. Add this to the orig a 100% increase? Double	i <mark>nal amount. It is really</mark> e it!	the same as doubling
100% increase to \$50 2x \$50 = \$100 (\$50 + \$50	כ)		
100% increase to \$400 2x \$400 = \$800 (\$400 +	\$400)		
Find the new price if ther	e is a 100% increase:		
1) 100% increase on \$5	0 = \$100	6) 100% increase	on \$70 = \$140
2) 100% increase on \$2	0 = \$40	7) 100% increase	on \$90 = \$180
3) 100% increase on \$4	0 = \$80	8) 100% increase	on \$10 = \$20
4) 100% increase on \$8	0 = \$160	9) 100% increase	on \$30 = \$60
5) 100% increase on \$6	0 = \$120	10) 100% increase	on \$100 = \$200
Find the new price if ther	e is a 100% increase on t	hese larger amounts:	
1) 100% increase on \$3	00 = \$600	6) 100% increa	se on \$700 = \$1,400
2) 100% increase on \$2	00 = \$400	7) 100% increa	se on \$550 = \$1,100
3) 100% increase on \$4	60 = \$920	8) 100% increa	se on \$680 = \$1,360
4) 100% increase on \$7	7,500 = \$15,000	9) 100% increa	se on \$650 = \$1,300
5) 100% increase on \$5	00 = \$1,000	10) 100% increas	se on \$3,050 = \$6,100
Revision: Multiply fraction ^{1) 5} of $7 - 5$	hs by whole numbers 4^{1} 4^{4} of 25 - 20	Multiply whole numbers $\begin{pmatrix} 7 \\ 7 \end{pmatrix}$ $AE \times \begin{pmatrix} 1 \\ - 0 \end{pmatrix}$	by fractions 10^{10} 10 × 1^{1} – 5
$\frac{7}{7}$ OI 7 - 5	$\frac{7}{5}$ 01 25 - 20	$43 \times \frac{5}{5} - \frac{9}{5}$	$\frac{1}{2} - \frac{5}{2}$
$\frac{2}{2} = \frac{15}{2}$ of $30 = \frac{15}{2}$	$\frac{5}{3} = \frac{12}{3}$ of $18 = \frac{12}{3}$	^{o)} 24 × $\frac{1}{2} = 12$	$\frac{11}{30} \times \frac{3}{10} = \frac{15}{10}$
³⁾ $\frac{2}{4}$ of 16 = <u>8</u>	⁶⁾ $\frac{4}{7}$ of 35 = <u>20</u>	⁹⁾ 30 × $\frac{3}{6} = 15$	¹²⁾ 24 × $\frac{5}{6} = 20$
Insert <, > or =			
¹³⁾ $\frac{1}{6} > \frac{1}{9}$	$\frac{15}{12} = \frac{5}{6}$	$\frac{17}{5} \frac{2}{5} > \frac{1}{4}$	¹⁹⁾ $\frac{1}{4} < \frac{7}{5}$
¹⁴⁾ $4\frac{2}{9} = \frac{38}{9}$	$\frac{16}{5} \frac{14}{5} > 1\frac{4}{5}$	$\frac{18}{8} \frac{5}{4} \frac{10}{4}$	$\frac{20}{3} \frac{4}{5} > \frac{3}{5}$

This worksheet is part of the Professor Pete's Classroom eBook "Bring It On! Percentages Worksheets". The recommended teaching sequence is shown in the bar at the top of this sheet. Have the students record their time taken to complete the page.

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ANSWERS

Nar	ne:	Score:			Percent	100% (ir	ncrease):	8[B]
	PROFESSOR PETE'S	% Intro 10 Common to	0%+dis % 50%	25%+dis +dis	10% 100+%	50% inc 100+% in	1% 0.5% nc Adv	Revision percent
Fin	d the new amount if the	re is a 100% i	ncrease o	n these a	mounts:			
1)	100% increase on 20 =	\$40		6)	100% inc	rease on 7	0 = \$140	
2)	100% increase on 90 =	\$180		7)	100% inc	rease on 3	80 = \$60	
3)	100% increase on 10 =	\$20		8)	100% inc	rease on 6	60 = \$120	
4)	100% increase on 80 =	\$160		9)	100% inc	rease on 4	0 = \$80	
5)	100% increase on 50 =	\$100		10)	100% inc	rease on 1	00 = \$200)
Fin	d the new amount if the	re is a 100% i	ncrease o	n these la	arger amo	ounts:		
1)	100% increase on \$200) = \$400		6)	100% in	crease on	\$400 = \$8	00
2)	100% increase on \$35	= \$70		7)	100% in	crease on	\$800 = \$^	1,200
3)	100% increase on \$360) = \$720		8)	100% in	crease on	\$180 = \$3	60
4)	100% increase on \$450) = \$900		9)	100% in	crease on	\$5,000 = \$	\$10,000
5)	100% increase on \$700) = \$1,400		10)	100% inc	rease on \$	\$250 = \$5	00
Sub frac	otract the fractions (chan tions where necessary)	ge to improp	er	Add the	fractions			
1)	$9\frac{3}{8}$ ²⁾ $4\frac{3}{1}$	<u>8</u> 3)	9 <u>7</u> 12	4)	2 ⁷ /9	$\frac{5}{9}$ $3\frac{5}{9}$	6)	$5\frac{1}{4}$
	$-6\frac{5}{8}$ $-4\frac{3}{1}$	$\frac{5}{0}$ –	$6\frac{8}{12}$	+	$4\frac{1}{2}$	+ $3\frac{5}{2}$	+	$5\frac{3}{4}$
	$\frac{1}{2\frac{3}{4}}$	3	$2\frac{11}{10}$		$\frac{9}{6^{8}}$	$-\frac{9}{7^{1}}$		4
	4	<u> </u>	12		0 ₉	' 9		
Ins	ert <, > or =							
7)	$\frac{3}{6}$ < $\frac{8}{9}$ ⁹⁾	$\frac{4}{6} > \frac{1}{3}$		11) 10	$\frac{3}{5}$	13)	$4\frac{1}{6} > \frac{24}{6}$	
8)	$\frac{1}{3} = \frac{2}{6}$ 10)	$\frac{2}{3} > \frac{4}{9}$		¹²⁾ $\frac{3}{6}$ <	<u>6</u> 5	14)	$\frac{8}{5} > \frac{1}{3}$	
-	the loss films of t							
Equ			10		•		. –	
15)	$\frac{2}{5} = \frac{12}{30} = \frac{10}{25}$ ¹⁷⁾	$\frac{1}{8} = \frac{4}{32} =$	<u>10</u> 80	$\frac{19}{5} =$	$=\frac{8}{40}=\frac{9}{4}$	9 21) 15	$\frac{1}{4} = \frac{7}{28} =$	= <mark>4</mark> 16
16)	$\frac{4}{5} = \frac{8}{10} = \frac{32}{40}$ ¹⁸⁾	$\frac{1}{6} = \frac{6}{36} =$	<u>3</u> 18	$\frac{20}{8} =$	$=\frac{42}{56}=\frac{3}{4}$	22)	$\frac{3}{4} = \frac{27}{36} =$	$=\frac{24}{32}$
			10	0			т <u>50</u>	02

ANSWERS

Name:	Score:	Percent 200+9	% (increase): 8 [C]
PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis 10% 50% in %+dis 100+% 100	c 1% 0.5% Revision 0+% inc Adv percent
200% Increase Question 200% is double the whole same as multiplying the What is the amount with a whole amount = 3 times th 200% increase to \$50 3x \$50 = \$150 (\$100 + \$5) 200% increase to \$400 3x \$200 = \$600 (\$400 + \$5)	s le amount plus the orig original amount by 3. 200% increase? Multip ne amount) 0)	ginal amount. It is 200%	5 + 100%. It is really the the amount + 100% or the
Find the new price if there	e is a 200% increase:		
1) 200% increase on \$10	0 = \$30	6) 200% increase	on \$80 = \$240
2) 200% increase on \$40	D = \$120	7) 200% increase	on \$70 = \$210
3) 200% increase on \$20	0 = \$60	8) 200% increase	on \$50 = \$150
4) 200% increase on \$60	D = \$180	9) 200% increase	on \$30 = \$90
5) 200% increase on \$90	0 = \$270	10) 200% increase	on \$100 = \$300
Find the new price if there	e is a 200% increase on	these larger amounts:	
1) 200% increase on \$30	00 = \$900	6) 200% increase	on \$600 = \$1,800
2) 200% increase on \$20	00 = \$600	7) 200% increase	on \$150 = \$450
3) 200% increase on \$60	00 = \$1,800	8) 200% increase	on \$350 = \$1,050
4) 200% increase on \$4,	500 = \$18,000	9) 200% increase	e on \$250 = \$750
5) 200% increase on \$50	00 = \$1,500	10) 200% increase	e on \$1,000 = \$3,000
Revision: Multiply fraction ¹⁾ $\frac{5}{7}$ of $35 = \frac{25}{25}$ ²⁾ $\frac{4}{7}$ of $28 = 16$	³⁾ $\frac{3}{4}$ of 36 = 27 ⁴⁾ $\frac{1}{4}$ of 20 = 5	Multiply whole numbers ⁵⁾ 40 × $\frac{2}{5} = 16$ ⁶⁾ 24 × $\frac{5}{5} = 20$	s by fractions $^{7)} 24 \times \frac{2}{3} = 16$ $^{8)} 30 \times \frac{1}{2} = 6$
	4 01 20 0		
Insert <, > or = 9) 9 1 1	1) 32 22	13) 2 _ 11	15) 4 _ 8
$12 \xrightarrow{2} \overline{3}$	$\frac{1}{6} \geq 3_{\overline{6}}$	3 <u>5</u>	$\overline{3} \stackrel{=}{=} \overline{6}$
$\begin{bmatrix} 10 \\ \frac{1}{3} \\ - \frac{2}{9} \end{bmatrix} = \begin{bmatrix} 1 \\ 1 \end{bmatrix}$	$\frac{2}{9} \xrightarrow{\frac{7}{9}} \frac{3}{12}$	$^{14)} \frac{3}{4} \leq \frac{6}{5}$	$^{16)}\frac{2}{3} \xrightarrow{>} \frac{2}{4}$

ANSWERS

Name:	Score:	Percent 200-	⊦% increase: 8 [D]
PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis 10% 50% ind %+dis 100+% 100	c 1% 0.5% Revision H+% inc Adv percent
300% Increase Question 300% is triple the whole same as multiplying the What is the amount with a whole amount = 4 times th 300% increase to \$50 4x \$50 = \$200 (\$150 + \$5) 300% increase to \$400 4x \$200 = \$800 (\$600 + \$5)	amount plus the origin original amount by 4. a 300% increase? Multip ne amount) 50) 5200)	n al amount. It is 300% + ly it by 4! (300% double t	• 100%. It is really the he amount + 100% or the
Find the new price if there	e is a 300% increase:		
1) 300% increase on \$50	0 = \$200	6) 300% increase	on \$60 = \$240
2) 300% increase on \$40	0 = \$160	7) 300% increase	on \$70 = \$280
3) 300% increase on \$20	D = \$80	8) 300% increase	on \$10 = \$40
4) 300% increase on \$80	0 = \$320	9) 300% increase	on \$30 = \$120
5) 300% increase on \$90	0 = \$360	10) 300% increase	on \$100 = \$400
Find the new price if there	e is a 300% increase on	these larger amounts:	
1) 300% increase on \$20	00 = \$800	6) 300% increase	on \$500 = 2,000
2) 300% increase on \$10	00 = \$400	7) 300% increase	on \$220 = \$880
3) 300% increase on \$70	00 = \$2,800	8) 300% increase	e on \$150 = \$600
4) 300% increase on \$3,	500 = \$14,000	9) 300% increase	e on \$250 = \$1,000
5) 300% increase on \$40	00 = \$1,600	10) 300% increase	e on \$2,000 = \$8,000
Revision: Multiply fraction ¹⁾ $\frac{3}{10}$ of 20 = <u>6</u>	$\frac{9}{10}$ of 20 = 18	Multiply whole numbers ⁵⁾ 12 × $\frac{2}{3} = \frac{8}{3}$	$^{7)}$ 48 × $\frac{4}{6}$ = <u>32</u>
²⁾ $\frac{4}{9}$ of 63 = <u>28</u>	⁴⁾ $\frac{2}{3}$ of 6 = <u>4</u>	⁶⁾ 30 × $\frac{4}{5} = 24$	⁸⁾ 30 × $\frac{3}{6} = 15$
Insert <, > or =			
$\begin{vmatrix} 9 & 9 \\ 12 & > \frac{1}{3} \end{vmatrix}$ 1	$\frac{1}{6} \frac{32}{6} > 3\frac{2}{6}$	$\frac{13}{3} \frac{2}{5} < \frac{11}{5}$	$^{15)}\frac{4}{3} = \frac{8}{6}$
$\begin{array}{c c} 10 & \frac{1}{3} & \searrow & \frac{2}{9} \end{array} $ 1	$\frac{12}{9} \frac{7}{9} > \frac{3}{12}$	¹⁴⁾ $\frac{3}{4} < \frac{6}{5}$	$16) \frac{2}{3} > \frac{2}{4}$

ANSWERS

Percentages

9[A]

Percent 1%:

Name:

PROFESSOR PETE'S	% Intro 10%+dis Common to % 50	25%+dis 10% 50% inc %+dis 100+% 100+% inc	1% 0.5% Revision Adv percent
1% Questions What is 1% of each of the	se amounts? 1% is 1/1	00 of the amount	
1% of \$500			
1% of \$500 = \$5			
1% of \$40.00 = \$0.40 or 4	0c		
Find 1% of each of these 1) 1% of 774 = <u>7.74</u>	numbers:	6) 1% of 3192 = <u>31.92</u>	
2) 1% of 8746 = 87.46	<u>}</u>	7) 1% of 480 = <u>4.8</u>	
3) 1% of 705 = 7.05		8) 1% of 933 = <u>9.33</u>	
4) 1% of 8 = <u>0.08</u>		9) 1% of 1728 = <u>17.28</u>	
5) 1% of 385 = <u>3.85</u>		10) 1% of 94 = <u>0.94</u>	
Find 1% of each of these I	arger or smaller amou	nts:	
1) 1% of \$3,000 = \$30		6) 1% of \$7,000 = \$70)
2) 1% of \$20 = \$0.20		7) 1% of \$50 = \$0.50	
3) 1% of \$4,600 = \$46		8) 1% of \$60 = \$0.60	
4) 1% of \$7,500 = \$75		9) 1% of \$80,000 = \$8	0
5) 1% of \$5,000 = \$50		10) 1% of \$30,000 =	\$300
Simplify these fractions			
$\begin{bmatrix} 11 \\ \frac{6}{12} \end{bmatrix} = \frac{1}{2} $	$\frac{25}{40} = \frac{5}{8}$	$\begin{array}{c} 15) \ \frac{16}{32} \ = \ \frac{1}{2} \\ \end{array} \qquad \qquad$	$=\frac{1}{2}$
$\frac{12}{50} = \frac{2}{5}$	$\frac{6}{36} = \frac{1}{6}$	$\begin{array}{c} 16) \ \frac{6}{15} \ = \ \frac{2}{5} \end{array} \qquad \begin{array}{c} 18) \ \frac{10}{20} \end{array}$	$\frac{1}{2} = \frac{1}{2}$
Subtract the fractions (cha	nge to improper	Add the fractions	
$^{19)}$ 8 $\frac{2}{2}$ $^{20)}$ 0	$\frac{7}{2}$ 21) 9^{-7}	12^{22} $5\frac{1}{4}$ 2^{23} $5\frac{1}{3}$	$24) 2\frac{2}{5}$
23	12 10 8 0 ⁸	$+ 4\frac{3}{4} + 4\frac{1}{2}$	+ $4\frac{2}{-}$
$\frac{-2\overline{3}}{-1}$ $\frac{-7}{-7}$	$\frac{12}{11}$ $\frac{-0}{10}$	$\left\ \begin{array}{c} \frac{14}{10} \\ \frac{10}{10} \\ \frac{10}{10$	<u> </u>
$\frac{6\frac{1}{3}}{1}$	<u>12</u> <u>10</u>	$\left\ \begin{array}{ccc}10\\-10\end{array}\right\ \xrightarrow{9\overline{3}}$	$\frac{\overline{0}}{5}$

ANSWERS

Percentages

9[B]

Percent 1%:

Name:

PROFESSOR PETE'S % Intro 19 CLASSROOM Common to	0%+dis 25%+dis 10% 50% inc 1% 0.5% Revision % 50%+dis 100+% 100+% inc Adv percent
Find 1% of each of these numbers:	
1) 1% of 710 = 7.1	6) 1% of 412 = 4.12
2) 1% of 30 = <u>0.3</u>	7) 1% of 90 = <u>0.9</u>
3) 1% of 6 = 0.06	8) 1% of 1200 = <u>12</u>
4) 1% of $347 = 3.47$	9) 1% of 2723 = <u>27.23</u>
5) 1% of 4 = 0.04	10) 1% of 31 = 0.31
Find 1% of each of these larger amounts	
1) 1% of \$3,000 = \$30	6) 1% of \$7,000 = \$70
2) 1% of \$20,000 = \$200	7) 1% of \$50,000 = \$500
3) 1% of \$4,600 = \$46	8) 1% of \$6,000 = \$60
4) 1% of \$7,500 = \$75	9) 1% of \$80,000 = \$800
5) 1% of \$5,000 = \$50	10) 1% of \$30,000 = \$300
Simplify these fractions	
$ \begin{array}{c} 11) \frac{5}{15} = \frac{1}{3} \\ \end{array} \qquad \qquad \begin{array}{c} 13) \frac{20}{40} = \frac{1}{2} \\ \end{array} $	¹⁵⁾ $\frac{4}{6} = \frac{2}{3}$ ¹⁷⁾ $\frac{4}{10} = \frac{2}{5}$
$ \begin{array}{c} 12) \ \frac{10}{15} \ = \ \underline{\frac{2}{3}} \\ \end{array} \qquad \qquad \begin{array}{c} 14) \ \frac{2}{16} \ = \ \underline{\frac{1}{8}} \\ \end{array} $	$\begin{array}{c} 16) \ \frac{5}{10} \ = \ \frac{1}{2} \end{array} \qquad 18) \ \frac{12}{24} \ = \ \frac{1}{2} \end{array}$
Find 50% 100% or 150% of each of thes	e numbers'
19) 50% of 22 = 11	24) 50% of 850 = 425
20) 50% of 350 = <u>175</u>	25) 50% of 66 = <u>33</u>
21) 50% of 170 = <u>85</u>	26) 50% of 470 = <u>235</u>
22) 50% of 20 = <u>10</u>	27) 50% of 65 = 32.5
23) 50% of 50 = <u>25</u>	28) 50% of $4 = 2$
Revision: Find 10% of each of these num	bers:
29) 10% of 589 = 58.9	31) 10% of 5 = 0.5
30) 10% of 29 = 2.9	32) 10% of 75 = 7.5

Name:

Percent 0.5%: 9 [C]

PROFESSOR PETE'S % Intro 10%+dis CLASSROOM Common to % 50	25%+dis 10% 50% inc <u>1% 0.5%</u> Revision %+dis 100+% 100+% inc Adv percent
0.5% Questions	half of 1% Find 1% and halve it
0.5% of \$800	s han of 170. Find 170 and haive it.
1% of \$800 = \$8 0.5% Of \$800 is \$4.	
0.5% of \$40 1% of \$40.00 = \$0.40 or 40c 0.5% of \$40 = 20	c
Find 0.5% of each of these amounts:	
1) 0.5% of \$600 = \$3	6) 0.5% of \$700 = \$3.50
2) 0.5% of \$200 = \$1	7) 0.5% of \$900 = \$4.5
3) 0.5% of \$100 = \$0.50	8) 0.5% of \$400 = \$2
4) 0.5% of \$800 = \$4	9) 0.5% of \$500 = \$2.50
5) 0.5% of \$300 = \$1.50	10) 0.5% of \$1,000 = \$5
Find 0.5% of each of these larger or smaller amo	ounts:
1) 0.5% of \$3,000 = \$15	6) 0.5% of \$7,000 = \$35
2) 0.5% of \$20 = \$0.10	7) 0.5% of \$50 = \$0.25
3) 0.5% of \$4,600 = \$23	8) 0.5% of \$60 = \$0.30
4) 0.5% of \$6,000 = \$30	9) 0.5% of \$80,000 = \$400
5) 0.5% of \$5,000 = \$25	10) 0.5% of \$30,000 = \$15
Simplify these fractions	
$ \begin{array}{c} 1 \\ 1 \\ \frac{4}{16} \end{array} = \frac{1}{4} \\ \end{array} \qquad \begin{array}{c} 6 \\ \frac{15}{30} \end{array} = \frac{1}{2} \\ \end{array} $	¹¹⁾ $\frac{5}{40} = \frac{1}{8}$ ¹⁶⁾ $\frac{6}{60} = \frac{1}{10}$
²⁾ $\frac{12}{36} = \frac{1}{3}$ ⁷⁾ $\frac{8}{16} = \frac{1}{2}$	¹²⁾ $\frac{15}{20} = \frac{3}{4}$ ¹⁷⁾ $\frac{8}{16} = \frac{1}{2}$
$\begin{vmatrix} 3 & \frac{10}{15} = \frac{2}{3} \\ \end{vmatrix} = \begin{vmatrix} 8 & \frac{8}{40} = \frac{1}{5} \end{vmatrix}$	¹³⁾ $\frac{32}{40} = \frac{4}{5}$ ¹⁸⁾ $\frac{4}{12} = \frac{1}{3}$
$ \begin{array}{c} 4) \frac{12}{18} = \frac{2}{3} \\ \end{array} \qquad \qquad \begin{array}{c} 9) \frac{18}{30} = \frac{3}{5} \\ \end{array} $	${}^{14)} \frac{12}{16} = \frac{3}{4} \qquad {}^{19)} \frac{5}{50} = \frac{1}{10}$
⁵⁾ $\frac{30}{36} = \frac{5}{6}$ ¹⁰⁾ $\frac{16}{20} = \frac{4}{5}$	¹⁵⁾ $\frac{28}{32} = \frac{7}{8}$ ²⁰⁾ $\frac{6}{12} = \frac{1}{2}$

ANSWERS

Name:

Percentages

Percent 0.5%: 9 [D]

PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis 10% 50% in %+dis 100+% 100	c <u>1% 0.5%</u> Revision 0+% inc Adv percent	
Find 0.5% of each of these	amounts:			
1) 0.5% of \$600 = \$3		6) 0.5% of \$70	D = \$3.50	
2) 0.5% of \$200 = \$2		7) 0.5% of \$9,0	00 = \$45	
3) 0.5% of \$100 = \$5		8) 0.5% of \$4,0	00 = \$20	
4) 0.5% of \$800 = \$4		9) 0.5% of \$500 = \$2.50		
5) 0.5% of \$300 = \$1.50)	10) 0.5% of \$1,00	00 = \$15	
Find 0.5% of each of these	larger or smaller amou	unts:		
1) 0.5% of \$3,000 = \$15	-	6) 0.5% of \$7,0	000 = \$35	
2) 0.5% of \$20 = \$1		7) 0.5% of \$50	= \$0.25	
3) 0.5% of \$4,600 = \$23		8) 0.5% of \$60	= \$0.30	
4) 0.5% of \$6,000 = \$30		9) 0.5% of \$30	0,000 = \$1,500	
5) 0.5% of \$5,000 = \$25	5	10) 0.5% of \$10	0,000 = \$500	
Simplify these fractions				
¹⁾ $\frac{20}{25} = \frac{4}{5}$ ⁵⁾	$\frac{30}{40} = \frac{3}{4}$	⁹⁾ $\frac{15}{40} = \frac{\frac{3}{8}}{8}$	¹³⁾ $\frac{12}{60} = \frac{1}{5}$	
²⁾ $\frac{4}{16} = \frac{1}{4}$ ⁶⁾	$\frac{4}{6} = \frac{2}{3}$	$\frac{10}{30} \frac{18}{30} = \frac{3}{5}$	¹⁴⁾ $\frac{15}{24} = \frac{5}{8}$	
³⁾ $\frac{18}{20} = \frac{9}{10}$ ⁷⁾	$\frac{9}{30} = \frac{3}{10}$	$^{11)} \frac{15}{50} = \frac{3}{10}$	¹⁵⁾ $\frac{24}{30} = \frac{4}{5}$	
	$\frac{6}{8} = \frac{3}{4}$	$^{12)} \frac{20}{30} = \frac{2}{3}$	¹⁶⁾ $\frac{6}{30} = \frac{1}{5}$	
Subtract the fractions (cha	nge to improper	Add the fractions		
Tractions where necessary		20) _ 1 21)	-1 ²² -2	
$\begin{vmatrix} 17 \\ 8\frac{2}{2} \end{vmatrix} = \begin{vmatrix} 18 \\ 9 \end{vmatrix}$	$\frac{7}{12}$ ¹⁹⁾ $9\frac{7}{10}$	$\parallel 5\frac{1}{4}$	$5\frac{1}{3}$ $2\frac{-}{5}$	
- 1	12 IU 8 - 8	⊥ 1 <u>3</u> +	$A^{\perp} \rightarrow A^{\perp}$	
$ - 2\frac{1}{3} - 7$	$\frac{3}{12}$ – $8\frac{3}{10}$	$\parallel \underline{-}^{+} \underline{+} \underline{\overline{4}} = \underline{-}$	$+\frac{1}{3}$ $+\frac{1}{5}$	
$\frac{1}{6^{1}}$ 1	11 9	10	$9\frac{2}{2}$ $6\frac{4}{5}$	
	<u>12</u> <u>10</u>		<u> </u>	

Name:

ANSWERS

Percentages

Advanced Percentage: 10 [A]

PROFESSOR PETE'S % Intro 10%+dis CLASSROOM Common to % 50%	25%+dis 10% 50% inc 1% 0.5% Revision %+dis 100+% 100+% inc Adv percent		
Expressing one quantity as a percentage of another % of 80 = 20 Compare 80 and 20 20 is a quarter of 80 so 20 is 25% of 80. 25% of 80 = 20 Remember: 1/2 = 50%; 1/4 = 25%; 1/5 = 20%; 1/10 = 10%, 1/100 = 1%			
Find the percent: 1) 50% of 4 = 2 2) 100% of 400 = 400 3) 25% of 100 = 25	6) 1% of 300 = 3 7) 10% of 855 = 85.5 8) 25% of 80 = 20		
4) 50% of 80 = 40 5) 10% of 500 = 50	9) <u>10%</u> of 50 = 5 10) <u>100%</u> of 389 = 389		
Find 1%, 10% or 100% of each of these numbers: 11) 1% of 774 = 7.74 12) 1% of 8746 = 87.46 13) 1% of 705 = 7.05 14) 1% of 8 = 0.08 15) 1% of 385 = 3.85	16) 1% of $3192 = 31.92$ 17) 1% of $480 = 4.8$ 18) 1% of $933 = 9.33$ 19) 1% of $1728 = 17.28$ 20) 1% of $94 = 0.94$		
Simplify these fractions ²¹⁾ $\frac{6}{12} = \frac{1}{2}$ ²³⁾ $\frac{25}{40} = \frac{5}{8}$ ²²⁾ $\frac{20}{50} = \frac{2}{5}$ ²⁴⁾ $\frac{6}{36} = \frac{1}{6}$	$ \begin{array}{c} 25) \ \frac{16}{32} \ = \ \frac{1}{2} \\ 26) \ \frac{6}{15} \ = \ \frac{2}{5} \end{array} \begin{array}{c} 27) \ \frac{4}{8} \ = \ \frac{1}{2} \\ 28) \ \frac{10}{20} \ = \ \frac{1}{2} \end{array} $		
Convert these common fractions to percents 29) $\frac{35}{100} = 35 \%$ 34) $\frac{1}{100} = 1 \%$ 30) $\frac{91}{100} = 91 \%$ 35) $\frac{56}{100} = 56 \%$ 31) $\frac{7}{100} = 7 \%$ 36) $\frac{50}{100} = 50 \%$ 32) $\frac{45}{100} = 45 \%$ 37) $\frac{0}{100} = 0 \%$ 33) $\frac{10}{100} = 10 \%$ 38) $\frac{4}{100} = 4 \%$	Convert these decimals to percents 39 $0.25 = 25\%$ 44 $0.39 = 39\%$ 40 $0.48 = 48\%$ 45 $0.81 = 81\%$ 41 $0.01 = 1\%$ 46 $0.72 = 72\%$ 42 $0.08 = 8\%$ 47 $0.11 = 11\%$ 43 $0.30 = 30\%$ 48 $0.48 = 48\%$		

ANSWERS

Name:

Percentages

Advanced Percentage:	10	[B]
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PROFESSOR PETE'S % Intro 10%+dis CLASSROOM Common to % 50%	25%+dis 10% 50% inc 1% 0.5% Revision %+dis 100+% 100+% inc Adv percent
Find the percent: 1) 50% of 60 = 30	6) 20% of 100 = 20
2) 10% of 500 = 50	7) 10% of 5 = 0.5
3) 10% of 30 = 3	8) 1% of 8 = 0.08
4) 50% of 400 = 200	9) 5% of 20 = 1
5) <u>1%</u> of 400 = 4	10) 25% of 400 = 100
Find 1%, 10% or 100% of each of these numbers:	
11) 100% of 857 = <u>857</u>	16) 1% of 5001 = 50.01
12) 10% of 79387 = 7938.7	17) 1% of 7 = 0.07
13) 1% of 288 = 2.88	18) 10% of 1688 = <u>168.8</u>
14) 1% of 31 = 0.31	19) 1% of 16347 = <u>163.47</u>
15) 10% of 85797 = <u>8579.7</u>	20) 100% of 392 = <u>392</u>
Find the new price if there is a 100% increase on	these larger amounts:
21) 100% increase on \$500 = \$1,000	26) 100% increase on \$600 = \$300
22) 100% increase on \$750 = \$1,500	27) 100% increase on \$550 = \$1,100
23) 100% increase on \$400 = \$800	28) 100% increase on \$60 = \$120
24) 100% increase on \$2,500 = \$5,000	29) 100% increase on \$1,800 = \$3,600
25) 100% increase on \$100 = \$200	30) 100% increase on \$6,500 = \$13,000
Convert these percents to common fractions	Convert these percents to decimals
41) 82 % = $\frac{82}{100}$ 46) 4% = $\frac{4}{100}$	$^{51)}$ 31 % = 0.31 $^{56)}$ 87 % = 0.87
42) 69 % = $\frac{69}{100}$ 47) 8 % = $\frac{8}{100}$	$^{52)}$ 8% = 0.08 $^{57)}$ 44% = 0.44
$^{43)}55\% = \frac{55}{100}$ $^{48)}12\% = \frac{12}{100}$	53) 67 % = 0.67 $58)$ 60 % = 0.60
⁴⁴⁾ 23 % = $\frac{23}{100}$ ⁴⁹⁾ 2 % = $\frac{2}{100}$	$^{54)}$ 26 % = 0.26 $^{59)}$ 2% = 0.02
45) 20 % = $\frac{20}{100}$ 50) 100 % = $\frac{100}{100}$	$^{55)} 99\% = 0.99^{60)} 76\% = 0.76$

ANSWERS

Advanced Percentage: 10 [C]

Name:

PROFESSOR PETE'S % Intro 10%+dis CLASSROOM Common to % 50%	25%+dis 10% 50% inc 1% 0.5% Revision %+dis 100+% 100+% inc Adv percent
Expressing one quantity as a percentage of ar % of 20 = 15 Compare 15 and 20. 15 is three 75% of 20 = 15 Remember: 1/4 = 25%; 3/4 = 75%	10ther. quarters of 20 so 15 is 75% of 20. %; 1/5 = 20%; 1/2 = 50%; 1/10 = 10%, 1/100 = 1%
Find the percent: 1) 75% of 100 = 75 2) 25% of 200 = 50 3) 20% of 10 = 2 4) 10% of 10 = 1 5) 10% of 5 = 0.5	6) 75% of $200 = 150$ 7) 75% of $400 = 300$ 8) 20% of $100 = 20$ 9) 20% of $400 = 80$ 10) 25% of $200 = 50$
Find 1%, 10% or 100% of each of these numbers: 11) 1% of 3 = 0.03 12) 10% of 974 = 97.4 13) 10% of 55 = 5.5 14) 100% of 879 = 879 15) 10% of 9265 = 926.5	16) 10% of 707 = 70.7 17) 1% of 5124 = 51.24 18) 10% of 2 = 0.2 19) 100% of 56 = 56 20) 1% of 5672 = 56.72
Simplify these fractions	$ \begin{array}{c} 25) \ \frac{6}{18} = \frac{1}{3} \\ 26) \ \frac{8}{24} = \frac{1}{3} \\ \end{array} \begin{array}{c} 27) \ \frac{10}{16} = \frac{5}{8} \\ 28) \ \frac{21}{30} = \frac{7}{10} \\ \end{array} $
Find the missing number: 29) 1% of $\underline{4} = 0.04$ 30) 10% of $\underline{6} = 0.6$ 31) 100% of $\underline{9} = 9$ 32) 50% of 500 = 250 33) 50% of $\underline{20} = 10$ 34) 10% of $\underline{400} = 40$ 35) 1% of $\underline{2} = 0.02$	Multiply whole numbers by fractions 36) $24 \times \frac{2}{8} = \frac{6}{6}$ 41) $18 \times \frac{4}{9} = \frac{8}{8}$ 37) $48 \times \frac{2}{8} = \frac{12}{8}$ 42) $15 \times \frac{1}{3} = \frac{5}{8}$ 38) $30 \times \frac{3}{5} = \frac{18}{18}$ 43) $8 \times \frac{5}{8} = \frac{5}{8}$ 39) $40 \times \frac{1}{8} = \frac{5}{8}$ 44) $40 \times \frac{1}{5} = \frac{8}{8}$ 40) $48 \times \frac{6}{8} = \frac{36}{8}$ 45) $12 \times \frac{3}{6} = \frac{6}{8}$

ANSWERS

Name:

Percentages

Advanced Percentage: 10 [D]

PROFESSOR PETE'S % Intro 10%+dis CLASSROOM Common to % 50%	25%+dis 10% 50% inc 1% 0.5% Revision %+dis 100+% 100+% inc Adv percent
Find the percent:	
1) <u>50%</u> of 300 = 150	6) <u>25%</u> of 400 = 100
2) <u>75%</u> of 200 = 150	7) 75% of 800 = 600
3) 25% of 4 = 1	8) 75% of 80 = 60
4) 100% of 6 = 6	9) <u>100%</u> of 6 = 6
5) <u>75%</u> of 20 = 15	10) <u>20%</u> of 50 = 10
Find 1%, 10% or 100% of each of these numbers:	
11) 1% of 73048 = 730.48	16) 10% of 3018 = <u>301.8</u>
12) 1% of 6 = 0.06	17) 1% of 31 = 0.31
13) 10% of 5467 = 546.7	18) 10% of 20507 = <u>2050.7</u>
14) 1% of 947 = <u>9.47</u>	19) 100% of 7409 = <u>7409</u>
15) 100% of 6598 = <u>6598</u>	20) 0.5% of 200 = <u>1</u>
Insert <, > or =	
$^{21)} \frac{3}{6} \leq \frac{7}{9}$ $^{23)} 1\frac{6}{12} = 1\frac{3}{6}$	²⁵⁾ $5\frac{1}{3} > \frac{15}{3}$ ²⁷⁾ $\frac{11}{5} > \frac{4}{3}$
²²⁾ $\frac{1}{3} = \frac{4}{12}$ ²⁴⁾ $\frac{47}{10} = 4\frac{7}{10}$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
Simplify these fractions	
${}^{29)} \frac{6}{24} = \frac{1}{4} \qquad {}^{31)} \frac{18}{24} = \frac{3}{4}$	$^{33)} \frac{6}{18} = \frac{1}{3}$ $^{35)} \frac{10}{16} = \frac{5}{8}$
$30) \frac{24}{30} = \frac{4}{5}$ $32) \frac{15}{20} = \frac{3}{4}$	$^{34)} \frac{8}{24} = \frac{1}{3}$ $^{36)} \frac{21}{30} = \frac{7}{10}$
Find the missing number:	Multiply whole numbers by fractions
37) 48% of <u>5</u> = 2.4	$44) 24 \times \frac{2}{8} = 6$ $49) 18 \times \frac{4}{9} = 8$
38) 5% of <u>30</u> = 1.5	⁴⁵⁾ 48 × $\frac{2}{8}$ = 12 ⁵⁰⁾ 15 × $\frac{1}{2}$ = 5
39) 5% of $5 = 0.25$	46) 20 x 3 - 40 51) 0 x 5 5
40) 2% of $6 = 0.12$	$30 \times \frac{1}{5} = \frac{18}{18}$ $30 \times \frac{1}{8} = \frac{5}{18}$
41) 30% of <u>20</u> = 6	$47) 40 \times \frac{1}{8} = 5$ $52) 40 \times \frac{1}{5} = 8$
$\begin{array}{l} 42 \\ 42 \\ 42 \\ 58 \\ 61 \\ 61 \\ 61 \\ 61 \\ 61 \\ 61 \\ 61 \\ 6$	$48)$ 48 × $\frac{6}{2}$ = 36 $53)$ 12 × $\frac{3}{2}$ = 6
(43) 50% 01 - 1 = 0.58	<u>в</u>

ANSWERS

Name:

Percentages

Percentage	Revision:	11	[A]	
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PROFESSOR PETE'S	% Intro 10%+dis Common to % 50	25%+dis 10% %+dis 100+%	50% inc 1% 0.5% Revision 100+% inc Adv percent
Find the new price if there	e is a 10% discount:		
1) 10% discount off \$45	= \$40.50	6) 10% disco	ount off \$9,000 = \$8,100
2) 10% discount off \$80	= \$72	7) 10% disco	ount off \$4,500 = \$4,050
3) 10% discount off \$55	= \$49.50	8) 10% disco	ount off \$10,000 = \$9,000
4) 10% discount off \$15	= \$13.50	9) 10% disco	ount off \$3,000 = \$2,700
5) 10% discount off \$11	= \$9.90	10) 10% disco	ount off \$1,000 = \$900
Find the new price if there	e is a 50% discount:		
1) 50% discount off \$66	= \$33	6) 50% disco	unt off \$5,000 = \$2,500
2) 50% discount off \$48	= \$24	7) 50% disco	ount off \$280 = \$140
3) 50% discount off \$94	= \$47	8) 50% disco	ount off \$3,600 = \$1,800
4) 50% discount off \$29	= \$14.50	9) 50% disc	ount off \$640 = \$320
5) 50% discount off \$7 =	= \$3.50	10) 50% disco	ount off \$780 = \$390
Insert <, > or =			
¹⁾ $\frac{3}{6} < \frac{7}{9}$	$\frac{25}{9} \ge 2\frac{5}{9}$	$\frac{5}{5} \frac{8}{5} < \frac{13}{6}$	⁷⁾ $\frac{2}{3} < \frac{5}{3}$
$\frac{2}{3} \frac{21}{3} < 7\frac{1}{3}$	$\frac{4}{6} > \frac{1}{3}$	6) $4\frac{5}{6} > \frac{28}{6}$	⁸⁾ $5\frac{5}{6} > \frac{25}{6}$
Simplify these fractions			
$9) \frac{5}{15} = \frac{1}{3}$ 1	$\frac{6}{15} = \frac{2}{5}$	$\frac{13}{40} = \frac{2}{5}$	$\frac{15}{6} = \frac{1}{2}$
$\begin{array}{c} 10) \ \frac{10}{25} \ = \ \frac{2}{5} \end{array} \qquad 1$	$\frac{4}{20} = \frac{1}{5}$	$\frac{14}{8} = \frac{1}{2}$	$\frac{16}{12} = \frac{1}{2}$
Find the percent:		Find the missing	number:
17) <u>10%</u> of 30 = 3		22) 10% of <u>50</u>	= 5
18) <u>10%</u> of 8 = 0.8		23) 50% of <u>40</u>	= 20
19) <u>50%</u> of 400 = 200		24) 10% of <u>60</u>	= 6
20) <u>20%</u> of 10 = 2		25) 100% of 85	= 85
21) <u>25%</u> of 80 = 20		26) 1% of <u>56</u> =	0.56

Name:

ANSWERS

Percentage Revision: 11 [B]

Percentages

PROFESSOR PETE'S	% Intro 10%+dis Common to %	25%+o 50%+dis	dis 10% 5 100+%	0% inc 1% 100+% inc	0.5% Revision Adv percent
Find the new price if there	e is a 10% increase:				
1) 10% increase on \$65	= \$71.50	6)	10% increa	se on \$700 =	\$770
2) 10% increase on \$25	= \$27.50	7)	10% increa	se on \$900 =	\$990
3) 10% increase on \$45	= \$49.50	8)	10% increa	se on \$150 =	\$165
4) 10% increase on \$70	= \$77	9)	10% increa	se on \$350 =	\$385
5) 10% increase on \$60	= \$66	10)	10% increas	se on \$1500 =	= \$1650
Find the new price if there	e is a 50% increase:				
1) 50% increase on \$66	= \$33	6)	50% increas	se on \$700 =	\$350
2) 50% increase on \$24	= \$12	7)	50% increas	se on \$900 =	\$450
3) 50% increase on \$40	= \$20	8)	50% increas	se on \$10,000) = \$5,000
4) 50% increase on \$84	= \$42	9)	50% increas	se on \$3,000 :	= \$1,500
5) 50% increase on \$70	= \$35	10)	50% increas	se on \$100 =	\$50
Insert <, > or =					
1) $\frac{3}{6} < \frac{7}{9}$	$\frac{25}{9} \ge 2\frac{5}{9}$	5) <u>8</u> 5	< <u>13</u> 6	7) $\frac{2}{3}$	$\frac{5}{3}$
$\frac{2}{3} \frac{21}{3} < 7\frac{1}{3}$	$\frac{4}{6} > \frac{1}{3}$	⁶⁾ 4	$\frac{5}{6} > \frac{28}{6}$	⁸⁾ 5 ⁵ / ₆	$\frac{>}{6}$
Simplify these fractions					
$9) \frac{5}{15} = \frac{1}{3}$ 1	$\frac{1}{15} = \frac{2}{5}$	13) <u>16</u> 40	$=\frac{2}{5}$	$\frac{15}{6} =$	<u>1</u>
$\begin{array}{c} 10) \ \frac{10}{25} \ = \ \frac{2}{5} \end{array} $	$\frac{4}{20} = \frac{\frac{1}{5}}{\frac{5}{5}}$	¹⁴⁾ 4 =	$=\frac{1}{2}$	¹⁶⁾ <u>6</u> -	$=$ $\frac{1}{2}$
Find the percent:		Find t	he missina n	umber:	
17) <u>10%</u> of 30 = 3		22) 1	0% of <u>50</u> =	5	
18) <u>10%</u> of 8 = 0.8		23) 5	0% of <u>40</u> =	20	
19) <u>50%</u> of 400 = 200		24) 1	0% of <u>60</u> =	6	
20) <u>20%</u> of 10 = 2		25) 1	00% of <u>85</u>	= 85	
21) <u>25%</u> of 80 = 20		26) 1	% of <u>56</u> =	0.56	

ANSWERS

Percentages

Name:

Percentage Revision:	11 [C]

PROFESSOR PETE'S % Intro 10%+dis CLASSROOM Common to % 5	25%+dis 10% 50% inc 1% 0.5% <u>Revision</u> 0%+dis 100+% 100+% inc Adv percent
Find 100% or greater of each of these numbers:	
1) 100% of 82 = <u>82</u>	9) 500% of 8 = <u>40</u>
2) 200% of 60 = <u>120</u>	10) 200% of 50 = <u>100</u>
3) 300% of $100 = 300$	11) 300% of 70 = 210
4) 100% of 20 = <u>20</u>	12) 600% of 10 = <u>60</u>
5) 100% of 46 = <u>46</u>	13) 100% of 3 = <u>3</u>
6) 200% of 45 = <u>90</u>	14) 200% of 20 = <u>40</u>
7) 200% of 200 = 400	15) 600% of 8 = <u>48</u>
8) 300% of 800 = <u>2400</u>	16) 300% of 40 = <u>120</u>
Find 150% of each of these numbers:	
17) 150% of 300 = 450	24) 150% of 50 = 75
18) 150% of 500 = <u>750</u>	25) 150% of 40 = <u>60</u>
19) 150% of 600 = <u>900</u>	26) 150% of 200 = <u>300</u>
20) 150% of 4 = <u>6</u>	27) 150% of 6 = <u>9</u>
21) 150% of 2 = <u>3</u>	²⁸⁾ 150% of 40 = <u>60</u>
22) 150% of 60 = <u>90</u>	29) 150% of 800 = <u>1200</u>
23) 150% of 600 = <u>900</u>	30) 150% of 1000 = 1500
Simplify these fractions	
${}^{31)} \frac{6}{15} = \frac{2}{5}$ ${}^{33)} \frac{2}{6} = \frac{1}{3}$	³⁵⁾ $\frac{16}{40} = \frac{2}{5}$ ³⁷⁾ $\frac{3}{6} = \frac{1}{2}$
$32) \frac{3}{18} = \frac{1}{6}$ $34) \frac{30}{36} = \frac{5}{6}$	$^{36)}\frac{4}{8} = \frac{1}{2}$ $^{38)}\frac{6}{12} = \frac{1}{2}$
Find the percent:	Find the missing number:
$_{39)}$ <u>10%</u> of 20 = 2	43) 10% of $400 = 40$
40) <u>50%</u> of 200 = 100	44) 100% of $250 = 250$
41) 100% of 3 = 3	45) 10% of <u>500</u> = 50
42) <u>10%</u> of 500 = 50	46) 50% of <u>900</u> = 450

ANSWERS

Percentages

11 [D]

Percentage Revision:

Name:

ê	PROFESSOR PETE'S % Intro 10%+dis CLASSROOM Common to % 50%	25%+dis 10% 50% inc 1% 0.5% Revision %+dis 100+% 100+% inc Adv percent
Fine	d 150% of each of these numbers:	
1)	150% of 300 = 450	8) 150% of 50 = <u>75</u>
2)	$150\% \text{ of } 500 = \underline{750}$	9) 150% of 40 = <u>60</u>
3)	150% of 600 = 900	10) 150% of 200 = <u>300</u>
4)	150% of $4 = 6$	11) 150% of 6 = <u>9</u>
5)	150% of 2 = 3	12) 150% of 40 = <u>60</u>
6)	150% of 60 = 90	13) 150% of 800 = 1200
7)	150% of 600 = 900	14) 150% of 1000 = 1500
Fin	d the new price if there is a 10% increase:	
1)	10% increase on \$40 = \$44	6) 10% increase on \$7,500 = \$8,250
2)	10% increase on \$20 = \$22	7) 10% increase on \$9,000 = \$9,900
3)	10% increase on \$80 = \$88	8) 10% increase on \$2,000 = \$2,200
4)	10% increase on \$50 = \$550	9) 10% increase on \$10,000 = \$11,000
5)	10% increase on \$3 = \$3.30	10) 10% increase on \$20,000 = \$22,000
Fine	1 1%, 10% or 100% of each of these numbers:	
15)	1% of 3 = 0.03	20) 10% of 707 = 70.7
16)	10% of 974 = <u>97.4</u>	21) 1% of 5124 = <u>51.24</u>
17)	10% of 55 = 5.5	22) 10% of 2 = <u>0.2</u>
18)	100% of 879 = 879	23) 100% of 56 = <u>56</u>
19)	10% of 9265 = <u>926.5</u>	24) 1% of 5672 = 56.72
Fine	d the percent:	Find the missing number:
25)	10% of 20 = 2	29) 10% of $400 = 40$
26)	50% of 200 = 100	30) 100% of $250 = 250$
27)	100% of 3 = 3	31) 10% of <u>500</u> = 50
28)	<u>10%</u> of 500 = 50	32) 50% of $900 = 450$

ANSWERS

Name:

PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis 10% 50% inc %+dis 100+% 100	: 1% 0.5% Revision +% inc Adv percent
Convert these percents to	common fractions	Convert these percents to	decimals
¹⁾ $40\% = \frac{40}{100}$	6) 7 % = $\frac{7}{100}$	$^{11)}$ 25% = 0.25	$^{16)}$ 4% = 0.04
²⁾ 31 % = $\frac{31}{100}$	⁷⁾ 23 % = $\frac{23}{100}$	$^{12)}$ 12% = 0.12	$^{17)}$ 2% = 0.02
³⁾ 5% = $\frac{5}{100}$	⁸⁾ 11% = $\frac{11}{100}$	$^{13)}$ 55% = 0.55	$^{\text{18)}} 43\% = 0.43$
⁴⁾ $20\% = \frac{20}{100}$	⁹⁾ 9% = $\frac{9}{100}$	$^{14)}$ 80% = 0.80	$^{19)}$ 10% = 0.10
⁵⁾ $15\% = \frac{15}{100}$	10) 91 % = $\frac{91}{100}$	$^{15)}$ 39% = 0.39	66% = 0.66
Convert these common fra	actions to percents	Convert these decimals to	percents
²¹⁾ $\frac{39}{100} =$ 39 %	$\frac{26)}{100} = 30 \%$	$^{31)}$ 0.40 = 40 %	$^{36)}$ 0.19 = 19%
$^{22)} \frac{_{43}}{_{100}} = 43 \%$	$\frac{27)}{100} = 50 \%$	$^{32)}$ 0.85 = 85 %	$^{37)}$ 0.35 = 35 %
$\frac{23)}{100} = 5 \%$	$\frac{28)}{100} = 99 \%$	$^{33)}$ 0 = 0 %	$^{38)}$ 0.25 = 25 %
$^{24)} \ _{\frac{16}{100^{-}}} = \ 16 \ \%$	²⁹⁾ $\frac{22}{100} = 22 \%$	$^{34)}$ 0.08 = 8%	$^{39)}$ 0.90 = 90 %
$\frac{25}{100} = 2 \%$	$^{30)} \ \frac{_{61}}{_{100}} = \ 61 \ \%$	$^{35)}$ 0.05 = 5%	40) $0.12 = 12\%$
Convert these common fra	ctions to percents:	Convert these percents to a fractions:	simplified common
41) $\frac{1}{20} = 5 \%$	46) $\frac{2}{10} = 20$ %	⁵¹⁾ 10 % = $\frac{1}{10}$	⁵⁶⁾ 4% = $\frac{1}{25}$
⁴²⁾ $\frac{4}{20} = 20$ %	47) $\frac{10}{25} = 40 \%$	⁵²⁾ 25 % = $\frac{1}{4}$	57) 50 % = $\frac{1}{2}$
$^{43)} \frac{3}{5} = 60 \%$	⁴⁸⁾ $\frac{3}{20} = 15$ %	⁵³⁾ 75 % = $\frac{3}{4}$	⁵⁸⁾ 5% = $\frac{1}{20}$
$^{44)} \frac{1}{25} = 4 \%$	$^{49)} \frac{1}{25} = 4 \%$	⁵⁴⁾ 1 % = $\frac{1}{100}$	⁵⁹⁾ 2% = $\frac{1}{50}$
$\overset{\textbf{45)}}{\underline{50}} = 20 \%$	50) $\frac{25}{50} = 50$ %	55) 5% = $\frac{1}{20}$	60) 60 % = $\frac{3}{5}$
Insert <, > or = revision			
¹⁾ $2\frac{6}{10} > \frac{24}{10}$	$(3) \frac{1}{9} < \frac{2}{3}$	$\frac{5}{6} \frac{4}{6} > \frac{2}{5}$	⁷⁾ $4\frac{2}{3} > \frac{13}{5}$
²⁾ $2\frac{5}{9} \leq \frac{25}{9}$	$\frac{4}{6} \frac{2}{4} < \frac{8}{12}$	$\frac{6}{6} \frac{8}{6} > 1\frac{1}{4}$	$(a) \frac{4}{20} < \frac{1}{4}$

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Percentages

Check Up A

ANSWERS

Name:

	PROFESSOR PETE'S	% Intro 10%+dis Common to % 50%	25%+dis 10% 50% inc 1% 0.5% Revision 6+dis 100+% 100+% inc Adv percent
Fin	d 10% of each of these:		
1)	10% of 6 = 0.6		6) 10% of 7 = 0.7
2)	10% of 89 = <u>8.9</u>		7) 10% of 275 = 27.5
3)	10% of 164 = 16.4		8) 10% of 666 = <u>66.6</u>
4)	10% of 8 = <u>0.8</u>		9) 10% of 80 = <u>8</u>
5)	10% of 158 = 15.8		10) 10% of 450 = 45
Fin	d the new price if there	is a 10% discount off th	hese larger amounts:
1)	10% of \$6 = \$0.60	discounted price = \$6	6 - \$0.60 = \$5.40
2)	10% of \$20 = \$2	discounted price = \$2	20 – \$2 = \$18
3)	10% of \$50 = \$5	discounted price = \$	50 – \$5 = \$45
4)	10% of \$1 = \$0.10	discounted price = \$ ²	1 – \$0.10 = \$0.90
5)	10% of \$45 = \$4.50	discounted price = \$4	45 – \$4.50 = \$40.50
Fir	nd 50% of each of these	larger numbers:	Find the new price if there is a 50% discount off
11)	50% of 6 = <u>3</u>		these larger amounts: 1) 50% discount off \$242 = \$121
12)	50% of 20 = <u>10</u>		2) 50% discount off $606 = 303$
13)	50% of 13 = 6.5		3) 50% discount off \$850 = \$425
14)	50% of 5 = 2.5		(4) 50% discount off \$250 - \$425
15)	50% of 675 = 337.5		4) 50% discount of $$250 = 125
		_	5) 50% discount off \$45 = \$22.50
Rev	vision: Multiply fraction	s by whole numbers	Multiply whole numbers by fractions
16)	$\frac{4}{6}$ of 12 = 8 2	¹⁾ $\frac{3}{8}$ of 40 = <u>15</u>	$\begin{vmatrix} 26 \\ 27 \\ \times \frac{7}{9} \\ = \underline{21} \\ 31 \\ 12 \\ \times \frac{3}{6} \\ = \underline{6} \\ - 12 \\ 12 \\ \times \frac{3}{6} \\ = \underline{6} \\ - 12 \\ $
17)	$\frac{8}{10}$ of 40 = 32 22	$\frac{3}{10}$ of 10 = <u>3</u>	27) $9 \times \frac{8}{9} = \frac{8}{14}$ 32) $36 \times \frac{1}{4} = \frac{9}{14}$
18)	$\frac{5}{10}$ of 40 = 20 23	$\frac{6}{10}$ of 40 = 24	$28) 26 \times \frac{1}{2} = 13 \qquad 33) 28 \times \frac{1}{7} = 4$
19)	$\frac{4}{10}$ of 40 = 16 24	⁴⁾ $\frac{1}{2}$ of 50 = 25	$29) 28 \times \frac{5}{7} = 20 \qquad 34) 40 \times \frac{2}{8} = 10$
20)	2 of $25 - 40$ 2!	$\frac{-}{5}$ of 24 - 0	$30) 6 \times \frac{2}{3} = 2$ $35) 35 \times \frac{6}{3} = 30$

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ANSWERS

Name:

i	PROFESSOR PETE'S	% Intro 10%+dis Common to %	25%+dis 10% 50% inc 1% 0.5% Revision 50%+dis 100+% 100+% inc Adv percent
Fin	d 25% of each of these	numbers:	
1)	25% of $400 = 100$		6) 25% of 80 = <u>20</u>
2)	25% of 1000 = 250	<u>)</u>	7) 25% of 700 = <u>175</u>
3)	25% of 240 = <u>60</u>		8) 25% of 240 = <u>60</u>
4)	25% of 16 = <u>4</u>		9) 25% of 424 = <u>106</u>
5)	25% of 3600 = <u>900</u>	<u>)</u>	10) 25% of 80 = <u>20</u>
Fin	d 100% or greater of ea	ach of these	Find the new price if there is a 25% discount:
nun 11)	nbers: 100% of 45 = <u>45</u>		1) 25% discount off \$400 = \$300
12)	200% of 55 = 110		2) 25% discount off \$800 = \$600
13)	200% of 25 = <u>50</u>		3) 25% discount off \$4000 = \$3000
14)	300% of 25 = <u>75</u>		4) 25% discount off \$1000 = \$7500
15)	200% of 350 = $\frac{700}{100}$	<u>)</u>	5) 25% discount off \$100 = \$75
Rev	vision: Multiply fraction	ns by whole numbers	Multiply whole numbers by fractions
16)	$\frac{7}{10}$ of 10 = 7	$\frac{20}{9} \frac{4}{9} \text{ of } 27 = 12$	
17)	$\frac{1}{3}$ of 21 = 7	²¹⁾ $\frac{3}{10}$ of 40 = <u>12</u>	²⁵⁾ 35 × $\frac{2}{7}$ = 10 ²⁹⁾ 24 × $\frac{3}{6}$ = 12
18)	$\frac{2}{5}$ of 30 = 12	²²⁾ $\frac{2}{5}$ of 45 = <u>18</u>	
19)	$\frac{7}{8}$ of 16 = <u>14</u>	$\frac{5}{9}$ of 27 = <u>15</u>	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
Inse	ert <, > or =		
32)	$2\frac{2}{3} = \frac{8}{3}$	³⁴⁾ $2\frac{5}{10} < \frac{52}{10}$	$36) \frac{3}{6} = \frac{1}{2}$ $38) \frac{7}{6} < \frac{11}{5}$
33)	$4\frac{2}{4} > \frac{16}{4}$	$5^{35)} 5\frac{1}{6} > \frac{30}{6}$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
Cor	nvert common fraction	s to decimals	
40)	$\frac{41}{50} = 0.82$ ⁴²⁾ $\frac{1}{2}$	$\frac{2}{20} = 0.6$ 44) $\frac{8}{25}$	$= 0.32 \qquad {}^{46)} \frac{19}{20} = 0.95 \qquad {}^{48)} \frac{23}{50} = 0.46$
41)	$\frac{14}{25} = 0.56$ ⁴³⁾ $\frac{2}{2}$	$\frac{21}{25} = 0.84$ $\frac{45}{20}$	$= 0.55 \qquad {}^{47)} \frac{1}{2} = 0.5 \qquad {}^{49)} \frac{1}{25} = 0.04$

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ANSWERS

Name:

Percentages

Check Up D

PROFESSOR PETE'S % Intro 10%+dis CLASSROOM Common to % 50	25%+dis 10% 50% inc 1% 0.5% Revision %+dis 100+% 100+% inc Adv percent
Find the new price if there is a 10% increase:	
1) 10% increase on \$200 = \$220	6) 10% increase on \$500 = \$5500
2) 10% increase on \$100 = \$110	7) 10% increase on \$500 = 4550
3) 10% increase on \$480 = \$1024	8) 10% increase on \$250 = \$275
4) 10% increase on \$1,000 = \$1,250	9) 10% increase on \$250 = \$275
5) 10% increase on \$400 = \$440	10) 10% increase on \$650 = \$710
Find the new price if there is a 50% increase on t	hese larger amounts:
1) 50% increase on \$300 = \$450	6) 50% increase on \$700 = \$1050
2) 50% increase on \$200 = \$300	7) 50% increase on \$500 = \$750
3) 50% increase on \$240 = \$360	8) 50% increase on \$620 = \$930
4) 50% increase on \$800 = \$1,200	9) 50% increase on \$4,000 = \$3,000
5) 50% increase on \$300 = \$450	10) 50% increase on \$1,000 = \$1,500
Find the new price if there is a 100% increase on	these larger amounts:
1) 100% increase on \$200 = \$400	6) 200% increase on \$800 = \$2,400
2) 100% increase on \$100 = \$200	7) 200% increase on \$500 = \$1,500
3) 100% increase on \$260 = \$520	8) 300% increase on \$1,000 = \$4,000
4) 100% increase on \$6,500 = \$13,000	9) 200% increase on \$900 = \$2,700
5) 100% increase on \$500 = \$1,000	10) 200% increase on \$5,050 = \$15,150
Revision: Multiply fractions by whole numbers	Multiply whole numbers by fractions
¹⁾ $\frac{2}{10}$ of 10 = 2 ⁶⁾ $\frac{5}{7}$ of 14 = 10	$^{11)} 6 \times \frac{1}{6} = 1$ $^{16)} 25 \times \frac{3}{5} = 15$
²⁾ $\frac{2}{3}$ of 18 = 12 ⁷⁾ $\frac{1}{2}$ of 20 = 10	$12) 24 \times \frac{2}{6} = 8 $ 17) $12 \times \frac{1}{2} = 6$
³⁾ $\frac{1}{2}$ of 10 = 5 ⁸⁾ $\frac{3}{5}$ of 50 = 30	$13) 18 \times \frac{5}{6} = 15 18) 25 \times \frac{1}{5} = 5$
4) $\frac{2}{6}$ of 24 = 8 9) $\frac{1}{2}$ of 18 = 9	¹⁴⁾ 14 × $\frac{3}{7} = \frac{6}{19}$ ¹⁹⁾ 24 × $\frac{2}{8} = \frac{6}{19}$
⁵⁾ $\frac{2}{7}$ of 14 = 4 ¹⁰⁾ $\frac{5}{6}$ of 30 = 25	$15) 27 \times \frac{2}{3} = 18 \qquad 20) 45 \times \frac{6}{9} = 30$
$\frac{3}{7}$ of $14 = \frac{4}{10}$ $\frac{3}{6}$ of $30 = \frac{25}{10}$	$10^{-10} 27 \times \frac{1}{3} = \frac{18}{18}$ $20^{-1} 45 \times \frac{1}{9} = \frac{30}{18}$

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ANSWERS

Percentages

Check Up E

Name:

PROFESSOR PETE'S CLASSROOM Common to % 50%	25%+dis 10% 50% inc 1% 0.5% Revision 6+dis 100+% 100+% inc Adv percent
Find 1% of each of these numbers:	Find 0.5% of each of these amounts:
1) 1% of 30 = 0.3	1) 0.5% of \$200 = \$1
2) 1% of 651 = <u>6.51</u>	2) 0.5% of \$2,000 = \$10
3) 1% of 15 = 0.15	3) 0.5% of \$100 = \$5
4) 1% of 177 = 1.77	4) 0.5% of \$100,000 = \$500
5) 1% of 6000 = <u>60</u>	5) 0.5% of \$3,000 = \$15
Find 1%, 10% or 100% of each of these numbers:	
6) 1% of 5 = 0.05	11) 1% of 8500 = <u>85</u>
7) 1% of 9000 = <u>90</u>	12) 10% of 80 = <u>8</u>
8) 10% of 3 = 0.3	13) 1% of 40000 = <u>400</u>
9) 100% of 3572 = <u>3572</u>	14) 1% of 45 = 0.45
10) 1% of 2022 = 20.22	15) 1% of 35 = 0.35
Find the percent:	
16) 80% of 60 = 48	21) <u>1%</u> of 2 = 0.02
17) 50% of 200 = 100	22) <u>10%</u> of 40 = 4
18) <u>2%</u> of 50 = 1	23) <u>50%</u> of 200 = 100
19) 75% of 6 = 4.5	24) 10% of 400 = 40
20) 25% of 80 = 20	25) <u>5%</u> of 70 = 3.5
Subtract the fractions (change to improper fractions where necessary)	Add the fractions
$26) 9\frac{4}{6} 27) 7\frac{2}{4} 28) 9\frac{3}{10}$	$2^{29)}$ $5\frac{1}{4}$ $3^{30)}$ $5\frac{2}{3}$ $3^{31)}$ $2\frac{2}{5}$
o ⁵ ⁴ ¹⁰	
$- \frac{\circ}{6} - \frac{1}{4} - \frac{\circ}{10}$	$+ 4\frac{-}{4}$ $+ 4\frac{-}{3}$ $+ 4\frac{-}{5}$
$\frac{5}{6}$ $\frac{5\frac{3}{4}}{10}$	$10 10\frac{1}{3} 7\frac{1}{5}$
Simplify these fractions	<u></u>
$\begin{array}{c} 32 \\ \frac{6}{9} \\ = \\ \frac{2}{3} \\ \frac{33}{20} \\ = \\ \frac{1}{2} \\ \frac{1}$	³⁴⁾ $\frac{10}{15} = \frac{2}{3}$ ³⁵⁾ $\frac{12}{24} = \frac{1}{2}$

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Homework

ANSWERS

Percentages

Percent: 1 HW

PROFESSOR PETE'S CLASSROOM Common to % 50%	25% 10% 50% inc 1% 0.5% Revision 6+dis 100+% inc 100+% inc Adv percent			
Information for Parents: Perent is a Fraction Out of 100				
Percent:Percent means "out of 100" (Cent—100 think 100c in a dollar)A percent is a number-it is a fraction as it is out of 100. 60% is 60 out of 100. Its fractional equivalence is $\frac{60}{100}$ or 0.60 or 0.6 Alternatively fractions can be written as percentages. Of course in common fractions the denominator must be 100. $0.34 $ or $\frac{34}{100}$ can be written as 34% 0.5 or $\frac{5}{10}$ can be written as 50%				
Convert these percents to common fractions	Convert these percents to decimals			
¹⁾ 76 % = $\frac{76}{100}$ ⁶⁾ 15 % = $\frac{15}{100}$	${}^{11)} \ \ 39 \ \% \ = \ 0.39 \ {}^{16)} \ \ 80 \ \% \ = \ 0.8$			
²⁾ 54 % = $\frac{54}{100}$ ⁷⁾ 1% = $\frac{1}{100}$	${}^{12)} 8\% = 0.08 {}^{17)} 78\% = 0.78$			
³⁾ 29 % = $\frac{29}{100}$ ⁸⁾ 99 % = $\frac{99}{100}$	${}^{13)} 60\% = 0.6 {}^{18)} 62\% = 0.62$			
⁴⁾ 7 % = $\frac{7}{100}$ ⁹⁾ 9 % = $\frac{9}{100}$	${}^{^{14)}} 19\% = 0.19 {}^{^{19)}} 0\% = 0.0$			
⁵⁾ 12 % = $\frac{12}{100}$ ¹⁰⁾ 66 % = $\frac{66}{100}$	${}^{15)} \hspace{0.1 cm} 91 \hspace{0.1 cm} \% \hspace{0.1 cm} = \hspace{0.1 cm} 0 \hspace{0.1 cm} .91 \hspace{0.1 cm} {}^{20)} \hspace{0.1 cm} 34 \hspace{0.1 cm} \% \hspace{0.1 cm} = \hspace{0.1 cm} 0 \hspace{0.1 cm} .34$			
Convert these common fractions to percents	Convert these decimals to percents			
21) $\frac{49}{100} = 49$ % 26) $\frac{0}{100} = 0$ %	$^{31)} 0.58 = 58\% ^{36)} 0.77 = 77\%$			
$\frac{33}{100} = 33 \% 27) \frac{5}{100} = 5\%$	$^{32)}$ 0.71 = 71 % $^{37)}$ 0.11 = 11 %			
$\frac{23}{100} = 5 \%$ $\frac{28}{100} = 37 \%$	$^{33)}$ 0.02 = 2% $^{38)}$ 0.6 = 60%			
$\frac{24}{100} = 27 \% ^{29} \frac{4}{100} = 4\%$	$^{34)}$ 0.09 = 8% $^{39)}$ 0.44 = 44%			
25) $\frac{16}{100} =$ 16 % 30) $\frac{1}{100} =$ 1%	$^{35)} 0.4 = 40\% ^{40)} 0.47 = 47\%$			
Insert <, > or =				
$ \begin{array}{c} 1 \\ 3 \\ \hline 3 \\ \hline 6 \\ \hline \end{array} \begin{array}{c} 4 \\ \hline 9 \\ \hline 1 \\ \hline 9 \\ \hline 1 \\ 1 \\$	$\binom{1}{4} \stackrel{2}{=} \frac{5}{3} \qquad \qquad \binom{10}{5} \stackrel{8}{=} \frac{2}{5}$			
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	⁸⁾ $\frac{6}{5} < \frac{9}{6}$ ¹¹⁾ $\frac{17}{6} > \frac{2}{6}$			
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	⁹⁾ $\frac{1}{4} < \frac{5}{6}$ ¹²⁾ $\frac{3}{4} > \frac{1}{3}$			

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ANSWERS

Homework

Converting Common Fractions to Percent: 2 HW

PROFESSOR PETE'S % Intro 10%+dis CLASSROOM Common to % 50%	25% 10% 50% inc 1% 0.5% Revision 6+dis 100+% inc 100+% inc Adv percent		
Information for Parents: Convert Common Fractions to Percent			
Common Fractions to Percent, Percent to Common Fractions: Converting a common fraction to a percent requires the fraction to have a denominator of 100. $\frac{3}{4} = -\frac{9}{100}$ convert the denominator to hundredths $\frac{3}{4}\frac{25}{100} = 25\%$ When converting percent back to a common fraction, simplify your fraction.			
$60\% = \frac{60}{100}\frac{3}{5}$			
Convert these common fractions to percents:	Convert these percents to simplified common fractions:		
1) $\frac{5}{50} = \frac{10}{100} = 10\%$ 6) $\frac{9}{10} = \frac{90}{100} = 90\%$	11) 5% = $\frac{5}{100}$ = $\frac{1}{20}$ 16) 90% = $\frac{90}{100}$ = $\frac{9}{10}$		
2) $\frac{4}{10} = \frac{40}{100} = 40\%$ 7 $\frac{5}{25} = \frac{20}{100} = 20\%$	12) 25 % = $\frac{25}{100} = \frac{1}{4}$ 17) 75% = $\frac{75}{100} = \frac{3}{4}$		
3) $\frac{4}{5} = \frac{80}{100} = 80\%$ 8) $\frac{1}{20} = \frac{5}{100} = 5\%$	13) $15\% = \frac{15}{100} = \frac{3}{20}$ 18) $40\% = \frac{40}{100} = \frac{2}{5}$		
4) $\frac{1}{2} = \frac{50}{100} = 50\%$ 9) $\frac{10}{25} = \frac{40}{100} = 40\%$	14) 20 % = $\frac{20}{100} = \frac{1}{5}$ 19) 1% = $\frac{1}{100} = \frac{1}{100}$		
5) $\frac{10}{50} = \frac{20}{100} = 20\%$ 10) $\frac{1}{4} = \frac{25}{100} = 25\%$	15) $2\% = \frac{2}{100} = \frac{1}{50}$ 20) $50\% = \frac{50}{100} = \frac{1}{2}$		
Adding and Subtracting Vertically: Subtract the fractions (regroup one whole where necessary)			
$ \frac{3\frac{6}{9}}{+\frac{1\frac{7}{9}}{4\frac{13}{9}}5\frac{4}{9}} - \frac{5\frac{3}{9}}{2\frac{7}{9}}4\frac{12}{9}}{2\frac{5}{9}} $	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		
Insert <, > or = 4^{1} 3^{2} 2^{2} 6^{1} 8^{2} 1^{2}	8) <u>14</u> > <u>14</u> 10) <u>5</u> < <u>11</u>		
$12 \stackrel{-}{-} 9 \qquad 12 \stackrel{-}{-} 3$ $5) \frac{3}{6} \stackrel{<}{-} \frac{6}{9} \qquad 7) \frac{8}{9} \stackrel{>}{-} \frac{1}{3}$	$5 - 6 \qquad 6 - 4$ 9) $\frac{8}{6} - \frac{10}{6} \qquad 11) \frac{1}{5} - \frac{1}{3}$		
Addition revision 12) 2 + 9 = 11 15) 9 + 6 = 15	Subtraction revision 18) $17 - 8 = 9$ 21) $8 - 5 = 3$		
13) 2 + 7 = <u>9</u> 16) 1 + 9 = <u>10</u>	19) $6 - 2 = 4$ 22) $18 - 9 = 9$		
14) 7 + 6 = 13 17) 9 + 5 = 14	$20) 4 - 2 = 2 \qquad 23) 13 - 8 = 5$		

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Bring It On! Homework	ANSWERS	Percent 10%:
CLASSROOM	% Intro 10%+dis 25%+6 Common to % 50%+dis	dis 10% 50% inc 1% 0.5% 100+% 100+% inc Adv p
	Information for Parents: C	alculating 10%
Calculating 10% of a qua 10% is one tenth: 10% Remember: Finding 10% is Each digit moves one place	antity: $p = \frac{10}{100} = \frac{1}{10}$ the same as dividing the number by 10. to the right.	eg 10% of 56 = 5.6 H T O. t 5 6 → 5.6
Find 10% of each of thes	e numbers:	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
1) 10% of 20 = 2	6) 10	% of $42 = 4.2$
2) 10% of 72 = 7.2	7) 10	% of $24 = 2.4$
3) 10% of 41 = <u>4.1</u>	8) 10	% of $47 = 4.7$
4) 10% of 29 = <u>2.9</u>	9) 10	% of 35 = <u>3.5</u>
5) 10% of 54 = <u>5.4</u>	10) 1 0	% of 13 = <u>1.3</u>
Find 10% of each of thes	e harder examples:	
11) 10% of 987 = <u>98.</u>	716) 1 0	% of 3 = 0.3
12) 10% of 9 = <u>0.9</u>	17) 1 0	% of 73 = <u>7.3</u>

18) 10% of 865 = 86.5 13) 10% of 109 = 10.914) 10% of 82 = 8.2 19) 10% of 40 = 4 20) 10% of 566 = 56.6

Revision: Multiply fractions by whole numbers ²⁵⁾ $\frac{3}{4}$ of 24 = 18 ²⁹⁾ $\frac{3}{6}$ of 6 = 3 **Revision: Multiply fractions by whole numbers** ²¹⁾ $\frac{1}{3}$ of 18 = 6 ²³⁾ $\frac{1}{8}$ of 24 = 3 ²⁶⁾ $\frac{9}{10}$ of 20 = 18 ³⁰⁾ $\frac{2}{8}$ of 16 = 4 ²⁷⁾ $\frac{3}{5}$ of 15 = 9 ³¹⁾ $\frac{2}{5}$ of 45 = 18 ²²⁾ $\frac{2}{3}$ of 18 = 12 ²⁴⁾ $\frac{3}{8}$ of 24 = 9 ²⁸⁾ $\frac{1}{4}$ of 28 = 7 ³²⁾ $\frac{3}{10}$ of 10 = 3 Insert <, > or = ³⁵⁾ $4\frac{1}{3} < \frac{14}{3}$ $\frac{33}{6} = \frac{3}{9}$ $\frac{36}{6} \frac{3}{6} < \frac{7}{3}$ $\frac{34}{9} < \frac{2}{3}$

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15) 10% of 8 = 0.8

Percentages

Adv percent

3 HW

Revision

ANSWERS

Percentages

4 HW

Percent 50%:

Homework

PROFESSOR PETE'S % Intro CLASSROOM Common	10%+dis 25% 10% 50% inc 1% 0.5% Revision to % 50%+dis 100+% inc 100+% inc Adv percent		
Information for Parents: 50% is a Half			
Percent of numbers: 50% 50% is the same as a half.	f 68 = 34 50% of 300 is the same as half of 300 = 150		
Eigd 50% of each number:			
1) 50% of 46 = 23	6) 50% of 30 = <u>15</u>		
2) 50% of 22 = <u>11</u>	7) 50% of 3 = <u>1.5</u>		
3) 50% of 80 = <u>40</u>	8) 50% of 68 = <u>34</u>		
4) 50% of 48 = <u>24</u>	9) 50% of 86 = <u>43</u>		
5) 50% of 39 = <u>19.5</u>	10) 50% of 24 = <u>12</u>		
Find 50% of each of these larger numbers 11) 50% of 120 = 60	16) 50% of 450 = <u>225</u>		
12) 50% of 180 = <u>90</u>	17) 50% of 8100 = 4050		
13) 50% of 408 = <u>204</u>	18) 50% of 560 = <u>280</u>		
14) 50% of 900 = 450	19) 50% of 1000 = <u>500</u>		
15) 50% of 780 = <u>390</u>	20) 50% of 6500 = <u>3250</u>		
Convert common fractions to decimals	Convert mixed numbers to decimals		
²¹⁾ $\frac{4}{5} = 0.8$ ²⁶⁾ $\frac{1}{2} = 0.5$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		
²²⁾ $\frac{2}{5} = 0.4$ ²⁷⁾ $\frac{3}{5} = 0.6$	$32) 3\frac{1}{2} = 3.5 \qquad 37) 2\frac{19}{25} = 2.76$		
$\begin{array}{c} 23) \ \frac{5}{20} = \underbrace{0.25} \\ \end{array} \begin{array}{c} 28) \ \frac{6}{25} = \underbrace{0.2} \\ \end{array}$	4 $33)$ $4\frac{9}{10} = 4.9$ $38)$ $7\frac{4}{50} = 7.08$		
$24) \frac{1}{50} = 0.02 \qquad 29) \frac{43}{50} = 0.8$	$6 \qquad \qquad 3^{42} = 3.84 \qquad 3^{9} 6^{16}_{25} = 6.64$		
$25) \frac{24}{25} = 0.96 \qquad 30) \frac{10}{20} = 0.5$	$\begin{array}{c c} 35 \\ \hline \\ 35 \\ 2\frac{3}{20} \\ = \\ 2.15 \\ \hline \\ 40 \\ 4\frac{18}{50} \\ = \\ 4.36 \\ \hline \end{array}$		
Insert <, > or =			
$ \begin{array}{c} 41) \ \frac{4}{6} \ \underline{=} \ \frac{2}{3} \end{array} \qquad \begin{array}{c} 42) \ \frac{3}{9} \ \underline{<} \ \frac{3}{6} \end{array} $			

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ANSWERS

Percentages

5 HW

Percent 25%:

Homework

PROFESSOR PETE'S % Intro 10%+dis CLASSROOM Common to % 50%	25%+dis 10% 50% inc 1% 0.5% Revisio %+dis 100+% 100+% inc Adv percent						
Information for Parents: Conve	Information for Parents: Convert Common Fractions to Percent						
Percent of numbers: 25% 25% is one quarter of a number.							
25% of 36 is the same as one quarter of 36 = 9 Finding 25% of a number is the same as divid	ng by 4.						
E.g. 25% of 76=? (Remember to find a quarter of a larger number y 25% of 76: half of 76 is 38, half of 38 is 19	ou have to halve and then halve again.)						
Find 25% of each of these numbers: 1) 25% of 100 = 25	6) 25% of 12 = 3						
2) 25% of 20 = $\frac{5}{5}$	7) 25% of 24 = $\frac{6}{6}$						
3) 25% of 80 = 20	8) 25% of 36 = 9						
4) 25% of 40 = <u>10</u>	9) 25% of 16 = <u>4</u>						
5) 25% of 120 = <u>30</u>	10) 25% of 8 = 2						
Find 25% of each of these larger numbers:11) 25% of 100 = 25	16) 25% of 160 = <u>40</u>						
12) 25% of 400 = <u>100</u>	17) 25% of 8000 = 2000						
13) 25% of 8000 = 2000	18) 25% of 200 = <u>50</u>						
14) 25% of 4000 = 1000	19) 25% of 400 = <u>100</u>						
15) 25% of 200 = <u>50</u>	20) 25% of 2400 = 600						
Revision: Multiply fractions by whole numbers $21)$ $\frac{1}{2}$ of $16 = \frac{8}{25}$ $\frac{25}{5}$ $\frac{2}{5}$ of $30 = \frac{12}{25}$	Multiply whole numbers by fractions $^{29)}$ 18 × $\frac{2}{3}$ = 12 $^{33)}$ 18 × $\frac{6}{9}$ = 12						
²²⁾ $\frac{1}{3}$ of 27 = 9 ²⁶⁾ $\frac{3}{6}$ of 6 = 3	³⁰⁾ 15 × $\frac{2}{3} = 10$ ³⁴⁾ 16 × $\frac{1}{2} = 8$						
²³⁾ $\frac{1}{3}$ of 36 = 12 ²⁷⁾ $\frac{1}{6}$ of 36 = 6	³¹⁾ 25 × $\frac{2}{5}$ = 10 ³⁵⁾ 10 × $\frac{9}{10}$ = 9						
²⁴⁾ $\frac{8}{9}$ of 27 = 24 ²⁸⁾ $\frac{1}{2}$ of 12 = 6	$32) 10 \times \frac{1}{10} = 1$ $36) 10 \times \frac{1}{2} = 5$						
Insert <, > or = $37)$ $\frac{11}{12}$ > $\frac{2}{9}$ $38)$ $\frac{4}{9}$ $\frac{4}{6}$	$^{39)} \frac{3}{5} \leq \frac{6}{5}$ $^{40)} \frac{7}{4} \geq \frac{3}{5}$						

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ANSWERS

Percentages

Homework

Percent 100%	5+: 6 HW
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PROFESSOR PETE'S % Intro 10%+dis CLASSROOM Common to % 50%	25%+dis 10% 50% inc 1% 0.5% Revision %+dis 100+% 100+% inc Adv percent					
Information for Parents: 100% to 400%						
Percent of numbers: 100% 100% is the whole number.						
100% of 45 is 45; it's easy! Finding 200% is all of it multiplied by 2.						
E.g. 200% of 30; is 2 x 30 = 60 300% of 50; is 3 x 50 = 150						
Find 100% or greater of each of these numbers: 1) 100% of $62 = 62$	6) 400% of 90 = 360					
2) 200% of 50 = 100	7) 100% of 72 = 72					
3) 200% of 80 = 160	⁸⁾ 200% of 55 = <u>110</u>					
4) 100% of 41 = <u>41</u>	9) 300% of 5 = <u>15</u>					
5) 300% of $60 = 180$	10) 100% of 46 = <u>46</u>					
150% is 100%+ 50% so 150% of 40 = ? 40 + ½ of 40 = 60						
Find 150% of each of these larger numbers: 11) 150% of 44 = $\underline{66}$	16) 150% of 1 = <u>1.5</u>					
12) 150% of 20 = <u>30</u>	17) 150% of 60 = <u>90</u>					
13) 150% of 2 = <u>3</u>	18) 150% of 500 = <u>750</u>					
14) 150% of 10 = <u>15</u>	19) 150% of 300 = <u>450</u>					
15) 150% of 80 = <u>120</u>	20) 150% of 200 = 300					
Revision: Multiply fractions by whole numbers ²¹⁾ $\frac{3}{4}$ of 40 = 30 ²⁴⁾ $\frac{3}{6}$ of 42 = 21	Multiply whole numbers by fractions27) $8 \times \frac{1}{2} = 4$ 30) $24 \times \frac{3}{8} = 9$					
²²⁾ $\frac{1}{5}$ of 40 = 8 ²⁵⁾ $\frac{2}{4}$ of 16 = 8	²⁸⁾ 49 × $\frac{5}{7}$ = 35 ³¹⁾ 40 × $\frac{2}{5}$ = 16					
²³⁾ $\frac{3}{5}$ of 30 = 18 ²⁶⁾ $\frac{3}{5}$ of 15 = 9	²⁹⁾ 28 × $\frac{5}{7} = 20$ ³²⁾ 45 × $\frac{7}{9} = 35$					
Insert <, > or = $33)$ $\frac{1}{3}$ $=$ $\frac{2}{6}$ $34)$ $\frac{5}{6}$ $=$ $\frac{4}{6}$	$^{35)} \frac{2}{4} < \frac{5}{3}$ $^{36)} \frac{13}{6} < \frac{12}{5}$					

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Bri	na	It	Or	1
_				

ANSWERS

Percentages

7 HW

Percent 10% (increase):

Homework

CLASSROOM Co	o 10%+dis mmon to % 50%+	25%+ +dis	dis <u>109</u> 100+%	<u>6 50% inc </u> 100+%	1% 0.5% inc Ad	Revision dv percent
Info	rmation for Pare	nts:	100% to 4	00%		
10% Increase QuestionsFirst find 10%. Then add this to the original amount.What is the amount with a 10% increase?10% increase to \$50						
10% of \$400 = \$400 10% of \$400 = \$40 \$400 + \$400	10 = \$440					
Find the new price if there is a 1	0% increase:					
1) 10% increase on \$80 = \$88	3	6)	10% increa	ase on \$40	= \$44	
2) 10% increase on \$20 = \$22	2	7)	10% increa	ase on \$90	= \$99	
3) 10% increase on \$10 = \$11		8)	10% increa	ase on \$50	= \$55	
4) 10% increase on \$60 = \$66	3	9)	10% increa	ase on \$30	= \$33	
5) 10% increase on \$70 = \$77	7	10)	10% increa	ase on \$100	0 = \$110	
Find the new price if there is a 1	0% increase on the	ese la	rger amoui	nts:		
1) 10% increase on \$200 = \$	220	6)	10% incr	ease on \$8	800 = \$88	0
2) 10% increase on \$100 = \$	5110	7)	10% incr	ease on \$5	5000 = \$	5500
3) 10% increase on \$4000 = \$	64400	8)	10% incr	ease on \$6	6000 = \$6	600
4) 10% increase on \$8000 = \$	8800	9)	10% incr	ease on \$2	2500 = \$2	750
5) 10% increase on \$300 = \$	330	10) 10% inc	rease on \$	510 = \$5	561
Revision: Multiply fractions by w ¹⁾ $\frac{3}{8}$ of 40 = 15 ⁴⁾ $\frac{4}{6}$ of	hole numbers 30 = 20	Multi ⁷⁾ 1	ply whole r 8 × $\frac{5}{9}$ = 1	oumbers by 0 ¹⁰	fractions) 24 × $\frac{3}{4}$	= 18
$2^{2} \frac{3}{8} \text{ of } 48 = \frac{18}{18} \qquad 5^{3} \frac{1}{4} \text{ of } 48 = \frac{18}{18} \qquad 5^{3} \frac{1}{4} \text{ of } 18$	⁻ 16 = <mark>4</mark>	⁸⁾ 7	$\times \frac{6}{7} = 6$	11) 16 × $\frac{5}{8}$	= 10
3) $\frac{7}{8}$ of $8 = \frac{7}{6}$ 6) $\frac{5}{8}$ of	8 = 5	⁹⁾ 2	$4 \times \frac{2}{3} = 1$	6 12) 27 × $\frac{2}{3}$	= 18
Insert <, > or =						
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$\frac{2}{12}$	15) <u>10</u> 8	$=\frac{5}{4}$	16)	$\frac{6}{4} = \frac{9}{6}$	

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8 HW

Percent 100% (increase):

Homework

PROFESSOR PETE'S % Intro 10%+dis CLASSROOM Common to % 50%	25%+dis 10% 50% inc 1% 0.5% Revision %+dis 100+% 100+% inc Adv percent				
Information for Parents: 100% to 400%					
100% Increase Questions 100% is the whole amount. Add this to the original amount. It is really the same as doubling the original amount. What is the amount with a 100% increase? Double it! 100% increase to \$50					
100% increase to \$400 2x \$400 = \$800 (\$400 + \$400)					
Find the new price if there is a 100% increase:					
1) 100% increase on \$70 = \$140	6) 100% increase on \$50 = \$100				
2) 100% increase on \$40 = \$80	7) 100% increase on \$80 = \$160				
3) 100% increase on \$90 = \$180	8) 100% increase on \$30 = \$60				
4) 100% increase on \$70 = \$140	9) 100% increase on \$20 = \$40				
5) 100% increase on \$60 = \$120	10) 100% increase on \$100 = \$200				
Find the new price if there is a 100% increase on t	these larger amounts:				
1) 100% increase on \$900 = \$1800	6) 100% increase on \$400 = \$800				
2) 100% increase on \$300 = \$600	7) 100% increase on \$450 = \$900				
3) 100% increase on \$700 = \$1400	8) 100% increase on \$6000 = \$12,000				
4) 100% increase on \$5000 = \$10,000	9) 100% increase on \$200 = \$400				
5) 100% increase on \$400 = \$800	10) 100% increase on \$8000 = \$16,000				
Revision: Multiply fractions by whole numbers1) $\frac{5}{7}$ of 7 = $\frac{5}{5}$ 4) $\frac{4}{5}$ of 25 = $\frac{20}{5}$	Multiply whole numbers by fractions ⁷⁾ 45 × $\frac{1}{5} = 9$ ¹⁰⁾ 10 × $\frac{1}{2} = 5$				
²⁾ $\frac{1}{2}$ of 30 = 15 ⁵⁾ $\frac{2}{3}$ of 18 = 12	⁸⁾ 24 × $\frac{1}{2}$ = <u>12</u> ¹¹⁾ 30 × $\frac{5}{10}$ = <u>15</u>				
³⁾ $\frac{2}{4}$ of 16 = 8 ⁶⁾ $\frac{4}{7}$ of 35 = 20	⁹⁾ 30 × $\frac{3}{6} = 15$ ¹²⁾ 24 × $\frac{5}{6} = 20$				
Insert <, > or =					
$\begin{vmatrix} 13 \\ 12 \\ \hline 12 \\ \hline 2 \\ \hline 6 \\ \hline 14 \\ \hline 2 \\ \hline 3 \\ \hline 9 \\ \hline 9 \\ \hline 9$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$				

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Percentages

9 HW

Percent 1%, 0.5%:

Homework

PROFESSOR PETE'S	% Intro 10	%+dis25%	% 10% 50% inc	1% 0.5% Revision
	Common to %	50%+dis	100+% inc 10	0+% inc Adv percent
	Information	for Parents:	1% and 0.5%	
1% Questions What is 1% of each of the	ese amounts? 1%	% is 1/100 of tl	he amount.	
1% of \$500 1% of \$500 = \$5				
1% of \$40				
1% of \$40.00 = \$0.40 or 4	10c			
Find 1% of each of these 1) 1% of 2000 = 20	numbers:	6) 1	% of 5000 = 50)
2) 1% of 30 = 0.3		7) 1	% of 100 = _1	_
3) 1% of 2800 = <u>28</u>		8) 1	% of 90 = <u>0.9</u>	
4) 1% of 2500 = <u>25</u>		9) 1	% of 4000 = 40	<u>)</u>
5) 1% of 9000 = <u>90</u>		10) 1	% of 300 = <u>3</u>	
0.5% Questions What is 0.5% of each of t 0.5% of \$800	hese amounts?	0.5% is half of	¹ 1%. Find 1% and	halve it.
1% of \$800 = \$8 0.5% ()f \$800 is \$4.			
0.5% of \$40 1% of \$40.00 = \$0.40 or 4	40c 0.5% of \$₄	40 = 20c		
Find 0.5% of each of thes	e amounts:			
1) 0.5% of \$200 = \$1			6) 0.5% of \$900) = \$4.50
2) 0.5% of \$300 = \$1.50	0		7) 0.5% of \$100	0 = \$0.50
3) 0.5% of \$1,000= \$5			8) 0.5% of \$4,0	00 = \$20
4) 0.5% of \$600 = \$3			9) 0.5% of \$400) = \$2
5) 0.5% of \$500 = \$2.5	0		10) 0.5% of \$10,	000 = \$50
Simplify these fractions				
$\frac{11}{12} = \frac{1}{2}$	$\frac{3}{40} = \frac{5}{8}$	15) <u>16</u> 32	$\frac{1}{2} = \frac{1}{2}$	$\frac{1}{8} = \frac{1}{2}$
	$\frac{4}{36} = \frac{1}{6}$	16) <u>6</u> 15	$\frac{2}{5} = \frac{2}{5}$	$\frac{18}{20} = \frac{1}{2}$
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Percentages

10 HW

Advanced Percentage:

Homework

PROFESSOR PETE'S % Intro 10%+dis CLASSROOM Common to % 50%	25%+dis 10% 50% inc 1% 0.5% Revision %+dis 100+% 100+% inc Adv percent
Information for Parents: Expressing Or	ne Quantity as a Percentage of Another
Expressing one quantity as a percentage of ar % of 80 = 20 Compare 80 and 20 20 is a quarter of 80 so 20 is 25% of 80. 25% of 80 = 20 Remember: 1/2 = 50%; 1/4	nother 4 = 25%; 1/5 = 20%; 1/10 = 10%, 1/100 = 1%
Find the percent: 1) <u>50%</u> of 8 = 4	6) <u>1%</u> of 250 = 2.5
2) <u>100%</u> of 800 = 800	7) <u>10%</u> of 685 = 68.5
3) 25% of 200 = 50	8) 25% of 40 = 10
4) 75% of 100 = 75	9) <u>10%</u> of 70 = 7
5) <u>20%</u> of 1500 = 300	10) <u>100%</u> of 465 = 465
Find 150% of each of these larger numbers: 11) 150% of 200 = <u>300</u>	16) 150% of 120 = <u>180</u>
12) 150% of 600 = 900	17) 150% of 300 = 450
13) 150% of 80 = 120	18) 150% of 100 = 150
14) 150% of 40 = <u>60</u>	19) 150% of 30 = <u>45</u>
15) 150% of 200 = <u>300</u>	20) 150% of 50 = <u>75</u>
Find 1%, 10% or 100% of each of these numbers: 21) 10% of 588 = 58.8	26) 1% of 6445 = 64.45
22) 1% of 4698 = $\frac{46.98}{46.98}$	27) 1% of 550 = 5.5
23) 100% of 455 = <u>455</u>	28) 10% of 760 = $\frac{76}{76}$
24) 100% of 12 = <u>12</u>	29) 10% of 4888 = <u>488.8</u>
25) 10% of 244 = <u>24.4</u>	30) 1% of 79 = 0.79
Simplify these fractions	³⁵⁾ $\frac{4}{24} = \frac{1}{6}$ ³⁷⁾ $\frac{6}{12} = \frac{1}{2}$
$32) \frac{2}{6} = \frac{1}{3} \qquad 34) \frac{4}{8} = \frac{1}{2}$	$ \frac{36}{36} \frac{12}{36} = \frac{1}{3} $ $ \frac{38}{12} = \frac{1}{6} $

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Homework

Percentage Revision: 11 HW

ê	PROFESSOR PETE'S	% Intro 10%+dis Common to % §	25 0%+dis	i%+dis	10% 50% in 100+% 100	ic 1% 0.5% <u>Revision</u> 0+% inc Adv percent
Con	nplete:					
1)	100% of 96 = 96		9)	200%	% of 33 = <u>6</u>	<u>6</u>
2)	200% of 75 = 150		10)	50%	of 80 = <u>40</u>	<u>)</u>
3)	100% of 98 = <u>98</u>		11)	50%	of 50 = 25	<u>-</u>
4)	200% of 300 = 600	-	12)	10%	of 56 = <u>5.6</u>	<u>)</u>
5)	300% of 150 = 450	_	13)	10%	of 5000 = 5	00
6)	150% of 20 = <u>30</u>		14)	0.5%	of 100 = _0	0.5
7)	150% of 40 = 60		15)	10%	of 905 = <u>90</u> .	5
8)	100% of $34 = 34$		16)	100%	% of 35 = <u>3</u>	5
Find	the missing number:		M	Itiply	whole number	s by fractions
17)	10% of <u>6</u> = 0.6		24	20 :	$\times \frac{1}{2} = 10$	$^{29)}$ 12 × $\frac{1}{2} = 6$
18)	$1\% \text{ of } \underline{2} = 0.02$		25	27 :	$\times \frac{8}{9} = 24$	$30)$ 30 × $\frac{2}{10}$ = 6
19)	10% of <u>400</u> = 40				J	
20)	100% of <u>9</u> = 9		26	20 :	$\frac{9}{10} = 18$	$^{31)}$ 81 × $\frac{5}{9} = \frac{45}{5}$
21)	50% of <u>500</u> = 250		27	⁾ 12 :	$\times \frac{3}{4} = 9$	³²⁾ 21 × $\frac{1}{3}$ = 7
22)	$1\% \text{ of } \underline{4} = 0.04$		0		1	
23)	50% of <u>20</u> = 10		20	30 :	$\frac{1}{3} = 10$	$\frac{33}{8} \times \frac{1}{8} = \frac{4}{1}$
Sim	olify these fractions					
34) <u>(</u>	$\frac{5}{5} = \frac{2}{5}$ 36	$\frac{1}{6} = \frac{1}{3}$	38)	$\frac{16}{40} =$	2 5	$\frac{40}{6} \frac{3}{6} = \frac{1}{2}$
35) <u>(</u>	$\frac{3}{8} = \frac{1}{6}$ 37	$\frac{30}{36} = \frac{5}{6}$	39)	$\frac{4}{8} = $	<u>1</u> 2	$\frac{41}{12} = \frac{1}{2}$
Fin	d the percent:		Fi	nd the	missing numb	er:
42)	1% of 6 = 0.06		47	20%	6 of <u>10</u> = 2	
43)	20% of 200 = 40		48	50%	6 of <u>50</u> = 25	5
44)	10% of 6 = 0.6		49	1%	of <u>300</u> = 3	
45)	<u>3%</u> of 200 = 6		50	50%	6 of <u>3</u> = 1.	5
46)	<u>10%</u> of 300 = 30		51	1%	of <u>9</u> = 0.0	9

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