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Jan 5-3:51 PM

Kuta Software - Infinite Pre-Algebra   Name_____

Fractions, Decimals, and Percents

Date_____ Period____

Write each as a decimal. ~~Round to the thousandths place.~~

1) 90%   2) 30%

3) 115.9%   4) 9%

5) 7%   6) 65%

7) 0.3%   8) 445%

Write each as a percent. ~~Round to the nearest tenth of a percent.~~

9) 0.452   10) 0.006

11) 0.002   12) 0.05

13) 4.78   14) 0.1

15) 3.63   16) 0.03

Write each as a fraction. Simplify if possible!

17) 25%

18) 70%

19) 93%

20) 58%

21) 50%

22) $66.\overline{6}\%$

23) 20%

24) 80%

25) 71%

26) 30%

Write each as a percent. ~~Use repeating decimals when necessary.~~
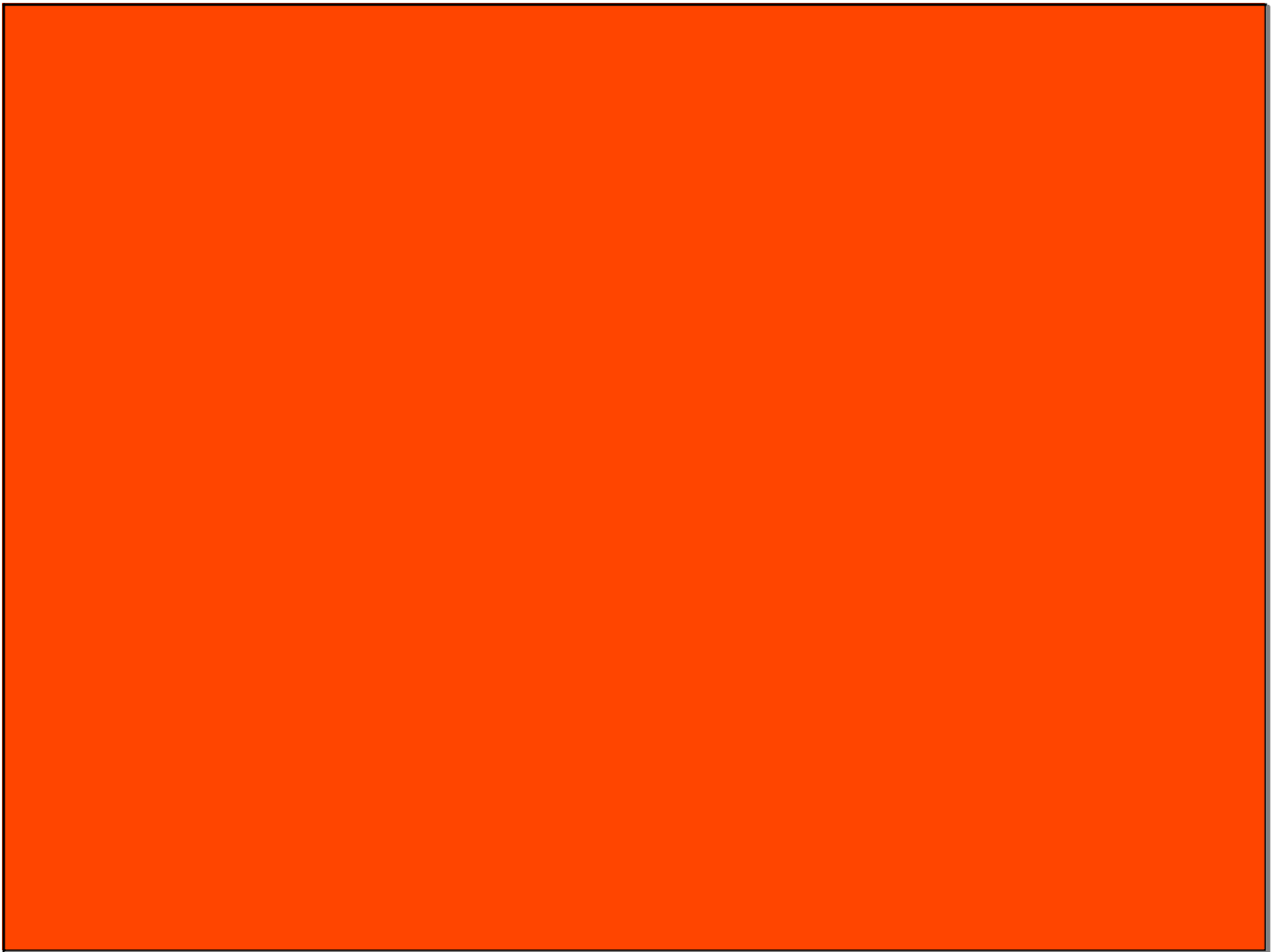
27) $\dfrac{1}{2}$

28) ~~$\dfrac{1}{8}$~~

29) $\dfrac{2}{3}$

30) $\dfrac{1}{100}$

31) $2\dfrac{1}{10}$

32) ~~$\dfrac{5}{8}$~~

33) $\dfrac{1}{10}$

34) $\dfrac{87}{100}$

-2-

Foundations of Algebra   Unit 2: Complex Number Systems   Practice
Day 14: Percents, Fractions, & Decimals   Name: _____
Practice Assignment   0   25   50   75   100

1. Complete the tables given the whole amount and then answer the following questions.

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
0	20	40	60	80	100	120	140	160	180	200
	220	240	260	280	300	320	340	360	340	400

$\frac{200}{10}$

a. What is 10% of 200?

20

b. What is 60% of 200?

120

c. What is 130% of 200?

260

d. 40 is what percent of 200?

20%

e. 140 is what percent of 200?

70%

f. 300 is what percent of 200?

150%

2. Complete the tables given the whole amount and then answer the following questions.

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
0	4.5	9	13.5	18	22.5	27	31.5	36	40.5	45
	49.5	54	58.5	63	67.5	72	76.5	81	85.5	90

$\frac{45}{?}$

a. What is 10% of 45?

4.5

b. What is 80% of 45?

36

c. What is 170% of 45?

76.5

d. 18 is what percent of 45?

40%

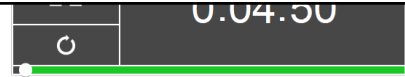e. 2.25 is what percent of 45?

5%

f. 63 is what percent of 45?

140%

3. Complete the tables given part of a number.

a.

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
0	7	14	21	28	35	42	49	56	63	70

$\frac{28}{4}$

Foundations of Algebra　　　　　　　　Unit 2: Complex Number Systems　　　　　　Practice

b.

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
0	50	100	150	200	250	300	350	400	450	500

$\dfrac{350}{7}$

c.

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
0	9	18	27	36	45	54	63	72	81	90

$\dfrac{36}{4}$

d.

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
0	3.5	7	10.5	14	17.5	21	24.5	28	31.5	35

$\dfrac{7}{2}$

4. **Without using a calculator,** calculate the following percents:

a. 50% of 60

30

b. 100% of 70

70

c. 25% of 12 $\dfrac{}{4}$

3

d. 10% of 55

55. •1
   .01
5.5

e. 1% of 150

150.

1.5

f. 25% of 160

40

g. 50% of 500

250

X 5% of 50

i. 25% of 40 $\dfrac{}{4}$

10

X 5% of 60

k. 1% of 200

200.

2

X 15% of 50

Todays Notes

Jul 30-4:21 PM

Foundations of Algebra   Unit 2: Complex Number Systems   Notes
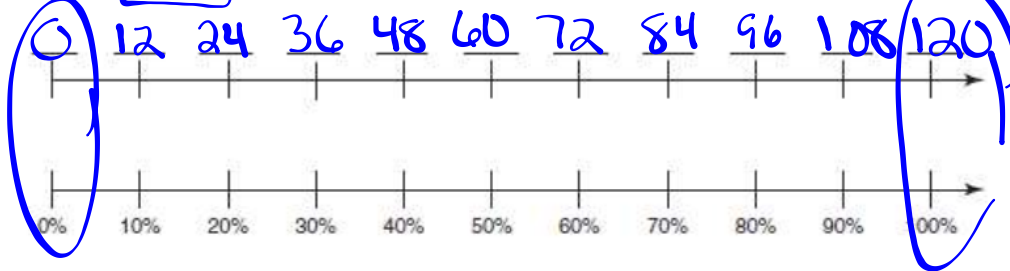
Day 15: Parts, Wholes, & Percents
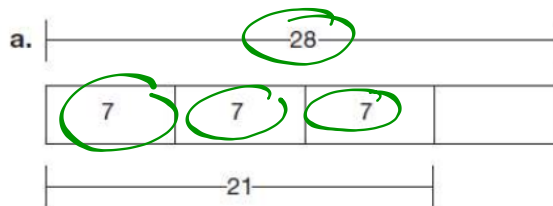
Review: Using your knowledge of double number lines, create a double number line when you know the whole amount equal $120.

0   12   24   36   48   60   72   84   96   108   120

0%   10%   20%   30%   40%   50%   60%   70%   80%   90%   100%

Review: Three percent problems are shown. Each problem matches one of the models shown. Determine which model matches each problem and then use the model to solve each problem.
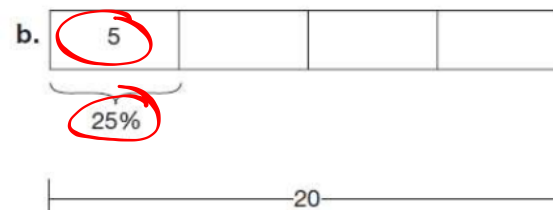
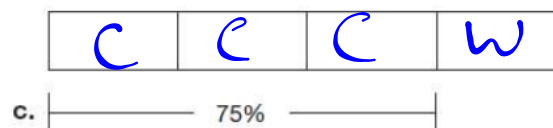**C** • A test had 20 questions. If Tracey got 75% correct, how many questions did Tracey get correct?

a.
| | | 28 | |
| 7 | 7 | 7 | |

21

A • Twenty-eight students in a class took an algebra test. If 21 students passed the test, what percent did not pass?
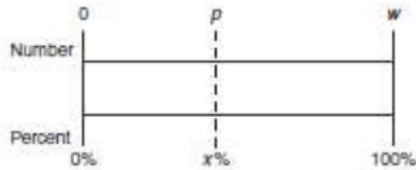
b.
| 5 | | | |

25%

20

B • In a school, 25% of the teachers are math teachers. If there are 5 math teachers, how many teachers are there in the school?

| C | C | C | W |

c.
75%

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Foundations of Algebra   Unit 2: Complex Number Systems   Notes

Determining Parts, Wholes, & Percents using Percent Proportion

Percent problems involve three parts – the whole, the part, and the percent. As long as you know two out of the three quantities, you can determine the third. Double number lines are a great way to visualize the part, whole, and percent quantities and then allow you to set up a proportion to solve. You can also use the percent proportion as well.

(double number line diagram with Number: 0, p, w and Percent: 0%, x%, 100%)

$$\frac{\text{Part (is)}}{\text{whole (of)}} = \frac{\%}{100}$$

Practice: Calculate the missing quantity using either double number lines or the percent proportion.

a. What is 20% of 16?

$$\frac{x}{16} = \frac{20}{100}$$

$$\frac{100x}{100} = \frac{320}{100}$$

$$X = 3.2$$

b. What is 25% of 60?

$$\frac{x}{60} = \frac{25}{100}$$

$$\frac{100x}{100} = \frac{1500}{100}$$

$$X = 15$$

c. 12 is what percent of 88?

$$\frac{12}{88} = \frac{x}{100}$$

$$\frac{1200}{88} = \frac{88x}{88}$$

$$X = 13.6$$

d. 90 is 75% of what number?

$$\frac{90}{x} = \frac{75}{100}$$

$$\frac{9000}{75} = \frac{75x}{75}$$

$$X = 120$$

e. 42 is 30% of what number?

$$\frac{42}{x} = \frac{30}{100}$$

$$\frac{30x}{30} = \frac{4200}{30}$$

$$X = 140$$

f. 200 is what percent of 450?

$$\frac{200}{450} = \frac{x}{100}$$

$$\frac{450x}{450} = \frac{20000}{450}$$

$$X = 44.4$$

g. If Jackson paid $450 for a laptop that was 75% of the original price, what was the original price?

$$\frac{450}{x} = \frac{25}{100}$$

$$\frac{25x}{25} = \frac{45000}{25}$$

$$X = 1800$$

h. Eric once had 240 downloaded songs in his collection. He deleted some and now has 180. What percent of his original collection did he keep?

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Foundations of Algebra   Unit 2: Complex Number Systems   Notes

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Determining Parts, Wholes, & Percents using Percent Equation

Percent problems involve three parts – the whole, the part, and the percent. As long as you know two out of the three quantities, you can determine the third. The percent equation is derived from the percent proportion. **The major difference is that if you use the percent equation, you must change your percent to a decimal before using the equation.**

Part = Percent Whole

$a = p \cdot b$

$$\frac{Part}{IS} = \frac{\%}{100}$$
$$\frac{}{OF} $$
$$whole$$

Practice: Calculate the missing quantity using either double number lines or the percent proportion.

a. What is 75% of 90?

$$\frac{x}{90} = \frac{75}{100} \quad \boxed{x = 67.5}$$

$$\frac{100x}{100} = \frac{6750}{100}$$

b. What is 18% of 30?

$$\frac{x}{30} = \frac{18}{100}$$

$$\boxed{x = 5.4}$$

c. 33 is what percent of 50?

$$\frac{33}{50} = \frac{x}{100}$$

$$\frac{3300}{50} = \frac{50x}{50} \quad \boxed{66}$$

d. 68 is 40% of what number?

$$\frac{68}{x} = \frac{40}{100}$$

$$\boxed{170}$$

e. 45 is 20% of what number?

$$\boxed{225}$$

f. 5 is what percent of 300?

$$\boxed{1.67}$$

g. Arielle was visiting New Hampshire in the fall and noticed that 35% of the trees had lost their leaves on her grandparent's farm. The number of trees that had lost their leaves was equal to 850 trees. How many trees are on her grandparent's farm?

h. Donna is framing a picture with a blue border. Her picture has an area of 400 square inches. Ater fraing with the border, Donna wants her final framed picture to be 1200 square inches. What percent of the final size is her original picture?

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Foundations of Algebra   Unit 2: Complex Number Systems   Notes

Extra – Percent Applications

Answer the following questions regarding percents:

a. What percent represents the full price or amount for an item?

b. If an item is 25% off, what percent of the original price are you actually paying for?

c. If you have to pay 80% of an item's price, what is the percent discount?

d. If you have to pay 108% for an item, what percent extra are you paying for?

e. If you leave a 15% tip, what percent are you now paying for your entire meal?

f. If the sales tax is 5%, what percent are you now paying for your purchased item?

Percent Word Problems – Tax

The tax rate in your county is 7% of the subtotal, which is then added on to determine the final cost. Suppose you buy an item that costs $18.00. What will be your total cost?

Two Step Method	One Step Method

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Additional Practice

Jul 30-8:11 PM

Foundations of Algebra   Unit 2: Complex Number Systems   Practice
Day 15: Percent Problems   Name: _____
Practice Assignment   0   25   50   75   100

1. Calculate each percent. You should use a calculator and show what you put in your calculator below.

     a. 63% of 18   b. 76% of 300   c. 11% of 88

2. Identify each piece of solving a percent problem and then answer the problem:

a. 15 is what percent of 90?   b. What number is 10% of 56?   c. 90% of a number is 180.

Part: Part: Part:

Whole: Whole: Whole:

Percent: Percent: Percent:

3. Solve the following word problems and round all answers to the nearest whole percent or whole number.

a. In Ty's English class, 70% of the students completed the essay by the due date. There are 30 students in Ty's English class. How many completed the essay by the due date?

Part:

Whole:

Percent:

b. 40% of the students on the field loved the museum. If 20 students love the museum, how many are on the field tirp?

Part:

Whole:

Percent:

c. A bag of candy contains 300 pieces of which 28% are red. How many pieces are NOT red?

Part:

Whole:

Percent:

Foundations of Algebra   Unit 2: Complex Number Systems   Practice

d. Haley is making admission tickets to the high school dance. So far, she has made 112 tickets, and her plan is to make 320 tickets. What percent of the admission tickets has Haley produce so far?

Part:

Whole:

Percent:

e. A baseball pitcher won 80% of the games he pitched. If he pitched 35 ballgames, how many games did he win?

f. Jerry, an electrician, worked 7 months out of the year. What percent of the year did he not work?

g. There are 28 students in a class. Sixteen of those students are boys. What percent of the class are girls?

h. Blake took a math test and got 35 correct and 10 incorrect answers. What was the percentage of correct answers?

i. Emmanuel found a wrecked Chevy Camaro that he could fix. He bought the car for 65% of the original price of $7200. What did he pay for the car?

Foundations of Algebra   Unit 2: Complex Number Systems   Notes

Percent Word Problems – Tips

You and your friend go to your favorite restaurant, The Cheesecake Factory, this past weekend. It is customary that for good service you tip your waiter 15% of the bill and 20% for exceptional service. Your bill, before tips, was $45.00. You had good, not exceptional service. What will be your total bill?

Two Step Method	One Step Method

Percent Word Problems – Discounts

Your favorite brand of shoes, Chacos, is having a big sale – 25% off all shoes. The shoes you really want are currently $105.00, but they will be included in the sale. How much are the shoes you want now?

Two Step Method	One Step Method

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Foundations of Algebra   Unit 2: Complex Number Systems   Notes

Error Analysis: Explain what Katie did wrong and what the correct answer should be:

Katie

My flight was $229.99 but I got 20% off because I booked it online. What did I pay?

$$\frac{Percent\ part}{Percent\ whole} = \frac{Part\ of\ quantity}{Whole\ quantity}$$

$$\frac{20}{100} = \frac{x}{229.99}$$

$$\frac{4599.8}{100} = \frac{100x}{100}$$

$$45.998 = x$$

So, I paid about $46.

Practice Application Problems

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a. Sneh got 4 problems wrong on a test of 36 questions. What percent of the questions did he get correct?

b. Games that usually sell for $36.40 were on sale for $27.30. What percent off are they?

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c. Tahjama and Viva are shopping for new shoes. They notice a flyer that says 40% off the sales tag price of all shoes. Tahjama finds a pair of shoes she likes but there is no sticker that gives the final sale price of the shoes. She knows that the original price is $120 and the original sale price is 25% off. Tahjama thinks she can add the two sale percents together (25% + 40% = 65%) whereas Viva disagrees. Who is correct and what is the final price of the shoes?

d. You need a graphing calculator for this class. The current price of the TI-84 Color calculators are regularly $120. Target, Staples, and Office Max are offering different sales on the TI-84 and you decide you want to save your parents as much money as possible. Which of the following offers will result in buying the calculator for the least amount of money?

- Target has the price of the graphing calculator down 30%, but if you show your student id, you receive an additional 25% off the original price.
- Staples has the price of the calculator marked down 25%, but if you come in between 1 pm and 3 pm, you get an additional 30% off the sale price.
- Office Max has the price of the graphing calculator marked down 50%.

Which store has the best priced calculator and how much is the calculator at each store?

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