5th - C204

Percents

Agenda

WARM-UP

HW Check

Notes P.18

HW #1-12 omit 3&4

Reminders

Open House tonight!

Quiz Thursday

Signed PR due Friday

Test Corrections

Essential Question

How do i use a Percent bar to Solve a Problem?

Warm-Up Tuesday

1. Which of the following equations can be used to find the measure of two complementary angles, where the measure of one angle is 4 less than 3 times the other angle?

A. $3x - 4 = 90$

B. $3x - 4 = 180$

C. $4x - 4 = 90$

D. $4x = 90$

$x + 3x - 4 = 90$

$4x - 4 = 90$

2. Find the value of x.

$$\frac{-5}{2} = \frac{(2 - 3x)}{(x - 1)}$$

$x = -1$

$-5(x - 1) = 2(2 - 3x)$

$-5x + 5 = 4 - 6x$

$+6x \qquad\qquad +6x$

$x + 5 = 4$

$-5 \quad -5$

Homework Check
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Answers:
1. $t = 11$
2. $y = 2$
3. 45 ft
4. 10.5 inches
5. **360** bottles of diet coke
6. $p = 5$
7. $a = 9$
8. $x = 4.5$ m
9. A. 3.75 miles

   B. 4.5 miles
10. 3.5 cups
11. A. Drawing

    B. 17.5 m

    C. 9 m

Algebra I - Unit 1: Topic 3 — Solving Proportions

Practice - Solving Proportions   **pp 114-120**
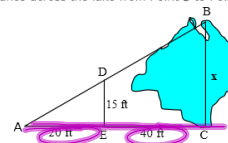
Name _____   Date _____ Per _____

Solve each proportion.

1. $\dfrac{t-5}{4} = \dfrac{3}{2}$

2. $\dfrac{1}{y-3} = \dfrac{3}{y-5}$

~proportional

3. Triangle *ABC* is similar to Triangle *ADE*.   What is, *x*, the distance across the lake from Point *B* to Point *C*?

w	ADE	ABC
height	15	X
base	20	60

4. A museum has scale models representing different time periods in history. A scale in which one inch in the model represents two feet is used to construct the models. The museum's sculptor wants to build a model of an 21-foot-tall tree for one of the exhibits. How tall should she make the model of the tree?

5. STOP MART received a delivery of 1080 bottles of Coke and Diet Coke. If the ratio of Coke delivered to Diet Coke delivered was 6:3, how many bottles of Diet Coke were delivered?
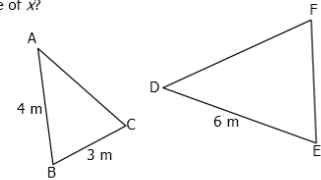
6. $\dfrac{6p-2}{7} = \dfrac{5p+7}{8}$

7. $\dfrac{a-3}{8} = \dfrac{3}{4}$

$8(6p-2) = 7(5p+7)$

$48p - 16 = 35p + 49$

$-35p \qquad -35p$

$13p - 16 = 49$

$+16 \quad +16$

$\dfrac{13p}{13} = \dfrac{65}{13}$

$\boxed{P = 5}$

Algebra I - Unit 1: Topic 3 – Solving Proportions

8.   Triangle *ABC* is similar to Triangle *DEF*. What is the value of *x*?

9.   Marlene can walk $2\frac{1}{2}$ miles in 40 minutes.   Determine how far she can walk in one hour. ⟵ 60min

$$\begin{array}{c|c|c}
 & W & O & N \\
\hline
\text{distance} & 2.5 & x \\
\hline
\text{time} & 40 & 60 \\
\end{array}$$

B. Marlene increases her rate to 3 miles in 40 minutes. At this current rate, how far will she walk in one hour?

10.   Vince is making cookies for his Single Survival class. The recipe he is using requires 1 cup of milk for
       8 servings. If he wants to make enough cookies for 28 servings, how much milk will Vince need?

11.   Josh is 1.8 meters tall. On a sunny day, Lenny measured Josh's shadow (3.5 meters) and the shadow of their
       house at the same time.

       A.   Draw a picture to represent the situation.

       B.   If the length of the house's shadow is 5 times the length of Josh's shadow, how long is the house's
             shadow?

       C.   What is the height of the house?

Percents p.18

Essential Question: how do i use a percent bar to solve a problem?

Method 1:
percent bars

things

(smaller)
PART   WHOLE

%   100

percents

TO SOLVE:
cross-multiply

Method 2:
PROPORTIONS

$$\frac{PART}{WHOLE} = \frac{\%}{100}$$

Percents p.18

Essential Question: how do i use a percent bar to solve a problem?

1. The average American eats 15 slices of pepperoni pizza per month. If the total monthly pizza consumption of the average American is 50 slices, what percent of the pizza eaten is pepperoni?

$15 \cdot 100 = 50x$

30%

2. A 15% tip is automatically added to the bill at a restaurant when there are more than 6 people in the party. The eight members of the Bernardo family eat dinner together at Pizza Palace. Their bill totals $156.00 before the tip is added.
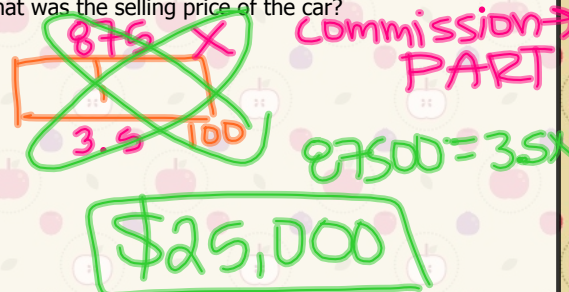
A. How much tip will Pizza Palace add to their bill?

The tip is **$23.40**

B. What will be the Bernardo family's total bill?

$156 + 23.40 =$ **$179.40**

C. Mrs. Bernardo works at a local department store. She earns $2,600 each month. The Pizza Palace dinner bill (including tip) is what percent of Mrs. Bernardo's monthly salary?
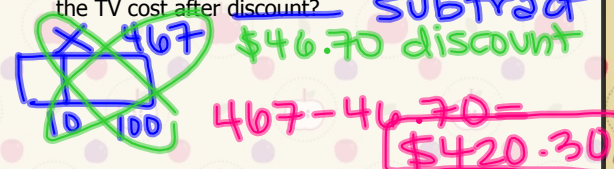
$2600x = 17940$ **6.9%**

3. A car salesman earns a 3.5% commission on every car he sells. If he received $875 for the last car he sold, what was the selling price of the car?
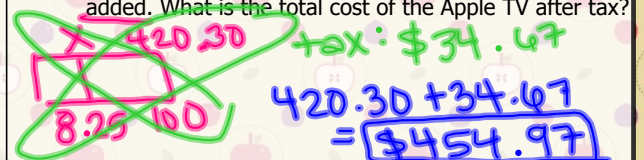
Commission→ PART

$87500 = 3.5x$

$25,000

4. Emily and her three brothers shared the cost of an Apple TV equally. The Apple TV costs $467.

A. They had a coupon for 10% off. How much did the TV cost after discount? subtract

$46.70 discount

$467 - 46.70 =$ **$420.30**

B. After the discount, the state sales tax of 8.25% is added. What is the total cost of the Apple TV after tax?

tax: $34.67

$420.30 + 34.67 =$ **$454.97**

C. If they evenly split this cost, how much does each person pay? divide by 4

$454.97 ÷ 4 =$ **$113.74**

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Algebra I- Unit 1: Topic 3- Percents
Practice - Percents   **pp 127-137**
Name: _____ Date: _____ Per: _____

1. On Wednesday, Tom's Nursery received a shipment of 60 flowering crabapple trees. Tom had ordered 80 trees. What percent of his order arrived on Wednesday?

2. Karen received a commission of 5% on the sale of a house. If the amount of her commission was $4780, what was the selling price of the house?

3. Kristi invested $5000 in a savings account at her bank at a rate of 3.5% for 5 years.

    a. How much interest did she earn?

    b. What was her total at the end of 5 years?

4. How long would Jeff need to invest his money if he wanted to earn $2160 in interest after depositing $6000 in an investment account at a rate of 8%?

OMIT #3 & 4

5. A police department reported that approximately 95% of the alarm calls they get each day are false alarms. If they receive 120 alarm calls in one day, about how many of them would not be false alarms?

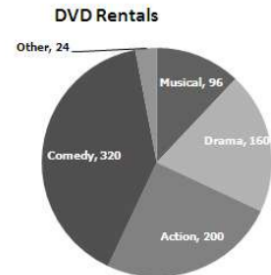6. The table below lists the number of dogs of each of the different breeds a store sold in one year.

Dog Sales

Breed	Number Sold	% Sold
Cocker Spaniel	48	
German Shepherd	21	
Miniature Schnauzer	45	
Beagle	36	

A. Fill in the table to show the percent of each breed of dog the pet store sold in one year.

B. Using the percentage rates you found in the table, how many beagles could the store expect to sell if they sell 200 dogs next year?

Algebra I- Unit 1: Topic 3- Percents
7. The graph below shows DVD rentals from a Redbox kiosk during one week.

DVD Rentals

Other, 24

Musical, 96

Drama, 160

Comedy, 320

Action, 200

A.   What percentage of rentals were not musicals or comedies?

B.   If 1000 DVDs are rented next week, how many would you predict to be dramas?

8. A car dealership is selling a used vehicle for $8,500. What would be the price of the vehicle with a sales tax of 7.5%?

9. There are approximately 1,500,000 enlisted women and men in the United States military. Of this number, approximately 420,000 are over the age of 35. What is the approximate percent of enlisted personnel over the age of 35?

10. The East High School gym needs to be painted. The painters estimated that it would take about 20 hours for them to paint the entire gym. If they have already worked for five hours, what percent of the entire job have they finished?

11. Shirley's goal is to collect 200 different kinds of butterflies for her collection. So far, she has collected 67% of her goal. What is the number of butterflies she has collected?

12. Mr. Garcia's restaurant bill with tax was $35.00. He wants to leave the waiter a 15% tip. How much money will Mr. Garcia leave including the tip?