% Percents %

Percent: a value compared to 100
Can be written as a fraction or decimal

3 types of questions:
Yuo will use two methods to find the
part, the whole, or the percent itself

Percent Proportion

$$\frac{\text{IS (Part)}}{\text{OF (Whole)}} = \frac{\%}{100}$$

Step 1: Underline IS, circle %, and put a square around OF

Step 2: Input the numbers that represent the words
  ○ "what" = x

Step 3: Cross multiply and solve for missing number, x

1. 64 is 50% of what number

2. what is 30% of 90

3. 23 is 15% of what number
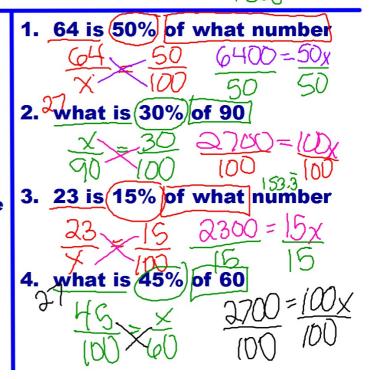
4. what is 45% of 60

Percent Proportion *Solutions*

$$\underline{\text{IS (Part)}} = \text{\%}$$
$$\text{OF (Whole)} \quad 100$$

Step 1: <u>Underline IS</u>, circle %,
    and put a square around OF

Step 2: Input the numbers that
    represent the words
  ○ "what" = x
Step 3: Cross multiply and solve
    for missing number, x

128

1. <u>64 is</u> ⟨50%⟩ of what number

$$\frac{64}{x} \times \frac{50}{100} \qquad \frac{6400}{50} = \frac{50x}{50}$$

2. ²⁷ what is ⟨30%⟩ of 90

$$\frac{x}{90} \times \frac{30}{100} \qquad \frac{2700}{100} = \frac{100x}{100}$$

153.3̄

3. <u>23 is</u> ⟨15%⟩ of what number

$$\frac{23}{x} \times \frac{15}{100} \qquad \frac{2300}{15} = \frac{15x}{15}$$

4. ²⁷ what is ⟨45%⟩ of 60

$$\frac{45}{100} \times \frac{x}{60} \qquad \frac{2700}{100} = \frac{100x}{100}$$

Percent Equation

IS (Part) = %(as decimal) x OF(Whole)

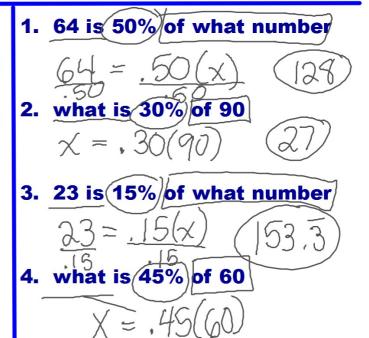|	
Step 1: Underline IS, circle %, and put a square around OF	1. 64 is 50% of what number
Step 2: Change the percent into a decimal	2. what is 30% of 90
Step 3: Input the numbers that represent the words	3. 23 is 15% of what number
Step 4: Solve for the missing number, x	4. what is 45% of 60

Percent Equation _Solution_

IS (Part) = %(as decimal) x OF(Whole)

Step 1: Underline IS, circle %, and put a square around OF

Step 2: *Change the percent into a decimal

Step 3: Input the numbers that represent the words

Step 4: Solve for the missing number, x

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1. 64 is 50% of what number

$$\frac{64}{.50} = \frac{.50(x)}{.50}$$ (128)

2. what is 30% of 90

$$x = .30(90)$$ (27)

3. 23 is 15% of what number

$$\frac{23}{.15} = \frac{.15(x)}{.15}$$ 153.3

4. what is 45% of 60

$$x = .45(60)$$

70

14   **50**

1)   30% of my number is 15.

choose a
method

2)   56 is what percent of 80?

choose a
method

3)   I am 25% of 56.

choose a
method

WHAT'S MY NUMBER?

70

14   **50**

1) 30% of my number is 15.

equation method

$$\frac{15}{.30} = \frac{.30x}{.30}$$

$$\boxed{50}$$

2) 56 is what percent of 80?

proportion method

$$\frac{56}{80} \times \frac{x}{100}$$

$$\frac{5600}{80} = \frac{80x}{80}$$

$$\boxed{70}$$

3) I am 25% of 56.

proportion method

$$\frac{x}{56} \times \frac{25}{100}$$

$$\frac{1400}{100} = \frac{100x}{100}$$

$$\boxed{14}$$

Mrs. Saxton and Ms. Jenkins are at Concord Mills purchasing a Michael Kors purse.

In the first store, Mrs. Saxton selected a purse that cost $300. While at the register, the cashier gave Mrs. Saxton twenty percent off of the cost.

How much did the cashier take off of its original price?

What did she pay? (sale price)

Meanwhile at the second store, Ms. Jenkins purchased a purse similiar to Mrs. Saxton that cost $320. While at the register, the manager took $80 off for being a teacher.

What percent did the manager take off of the original price?

What did she pay? (sale price)

Topic: Percent Equation	Lesson Essential Question: How can proportions help us solve real world problems involving percents?
What percent of $320 is $80?	**Example** **Example**

Example

Highlight the
IS, OF and PERCENT

$$\frac{IS}{OF} = \frac{PERCENT}{100}$$

$$\frac{\$80}{\$320} \quad\diagdown\diagup\quad \frac{x}{100}$$

$$\$320\,(x) = \$80\,(100)$$

$$320x = 8000$$

$$x = 25\%$$

Example

Highlight the

IS, OF and PERCENT

IS(Part) = %(Decimal) * OF (WHOLE)

$$80 = x * 320$$

$$\frac{80}{320} = \frac{320x}{320}$$

$$.25 = x$$

$$.25 * 100 = 25\%$$

or

$$.25 = 25\%$$

AGENDA

Warm-Up

Michael Kors

What's my number?

Are you ready?

Cornell Notes:

% Equations

% Proportions
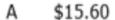
PRACTICE

HOMEWORK

Warm Up

COPY and SOLVE

1. What is 20% of 100?

2. What is 50% of 56?

3. The United States Department of Agriculture (USDA) recommends that women should eat 25 grams of fiber each day. If a granola bar provides 9% of that amount, how many grams of fiber does that contain?

Mr. Jones spent $156 to attend a college football game.

- Twenty percent of this cost was for a parking pass.

- He spent the remainder of the money on two tickets for the game.

What was the price per ticket?

A $15.60

B $31.20

C $62.40

D $124.80

COLLEGE
FOOTBALL
PLAYOFF