

Percent Word Problems

Use and solve the following proportion to solve all Percent Word Problems:

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



Let's start with solving for a missing part:

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

1. Approximately 30% of the students in Mrs. Doolan's Advisory have read *The Hunger Games*. If there are 20 people in Mrs. Doolan's Advisory, how many students have read the book?

Step #1: Ask: are you solving for the part, the whole, or the percent?



Step #2: Set up the proportion:

$$\frac{30}{100} = \frac{x}{20}$$

Step #3: Draw your visual oval cues (wings)

Step #4: Write the cross product expressions:

$$30 \cdot 20 = 100 \cdot x$$

Step #5: Multiply the solvable expression: (30 · 20): 600 = 100 · x

Step #6: Solve for the value of the variable in one of your three ways:

2. A Quaker Chewy granola bar has 88 calories. About 25% of these calories are from fat. How many calories are from fat?

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

Step #1: Ask: are you solving for the part, the whole, or the percent?



Step #2: Set up the proportion:

Step #3: Draw your visual oval cues (butterfly wings)

Step #4: Write the cross product expressions:

Step #5: Multiply the solvable expression:

Step #6: Solve for the value of the variable in one of your three ways:



Next, let's solve for finding the missing PERCENT (%).

3. Ms. Ruminski asked students to bring in a pack of gum to complete a lab in science class. Twelve of her A period students remembered to bring in the gum. If her A period has 18 students, approximately what percent of her class remembered to bring in their gum?

$$\frac{x}{100} = \frac{\text{is (part)}}{\text{of (whole)}}$$

Step #1: Ask: are you solving for the part, the whole, or the percent?



Step #2: Set up the proportion:

Step #3: Draw your visual oval cues (butterfly wings)

Step #4: Write the cross product expressions:

Step #5: Multiply the solvable expression:

Step #6: Solve for the value of the variable in one of your three ways:

4. Jacob spends 90 minutes in total each night doing homework. He spends 30 minutes on his math homework. What percent of his total homework time is spent on his math homework?

$$\frac{x}{100} = \frac{\text{is (part)}}{\text{of (whole)}}$$

Step #1: Ask: are you solving for the part, the whole, or the percent?



Step #2: Set up the proportion:

Step #3: Draw your visual oval cues (butterfly wings)

Step #4: Write the cross product expressions:

Step #5: Multiply the solvable expression:

Step #6: Solve for the value of the variable in one of your three ways:



Lastly, let's solve for finding the missing WHOLE.

5. There are 16 blue M&M's. This makes up 8% of a large bag of M&M's. How many M&M's are in the whole large bag?

$$\frac{\%}{100} = \frac{\text{is (part)}}{x}$$

Step #1: Ask: are you solving for the part, the whole, or the percent?



Step #2: Set up the proportion:

Step #3: Draw your visual oval cues (butterfly wings)

Step #4: Write the cross product expressions:

Step #5: Multiply the solvable expression:

Step #6: Solve for the value of the variable in one of your three ways:

6. Papa Gino's served 135 customers during the dinner rush. This was 75% of the number of customers served the night before. How many customers were served the previous evening?

$$\frac{\%}{100} = \frac{\text{is (part)}}{x}$$

Step #1: Ask: are you solving for the part, the whole, or the percent?



Step #2: Set up the proportion:

Step #3: Draw your visual oval cues (butterfly wings)

Step #4: Write the cross product expressions:

Step #5: Multiply the solvable expression:

Step #6: Solve for the value of the variable in one of your three ways: