

Name _____

Date _____

Mr. Tallman

Do Now**Use the percent proportion to solve the following.**

There are 15 marbles in a bag. 40% of those marbles are blue. How many marbles are blue?

Part: X

$$\frac{\text{Part}}{\text{Whole}} = \frac{\%}{100}$$

~~$$\frac{X}{15} = \frac{40}{100}$$~~

Whole: 15

~~$$\frac{100X}{100} = \frac{600}{100}$$~~

Percent: 40

$$X = 6$$

Lesson 34 - Solving Percents using the Percent EquationIn 6th grade, we solved percents using the percent proportion. Now, we will solve percents using the percent formula.

<u>Percent Proportion (6th Grade)</u>	<u>Percent Equation (7th Grade)</u> <u>**ALL PERCENTS MUST BE TURNED INTO DECIMALS**</u>
$\frac{\text{part}}{\text{whole}} = \frac{\%}{100}$	Part = percent (whole)

Example 1) Complete the table below. Identify the part, whole, and percent. Then write an equation. DO NOT SOLVE.

	Part (is)	Whole (of)	Percent	Equation
What number is 10% of 56?	X	56	10	$X = 56(.10)$
90% of a number is 180	180	X	90	$180 = .90X$
The 20 girls in the class represent 55% of the students in the class	20	X	55	$20 = .55X$
A softball team won 95% of 120 games played. How many games did they win?	X	120	95	$X = 120(.95)$

$$\text{Part} = \text{Whole} (\%)$$

Example 2) 80% of what number is 20?

Part: 20

Whole: X

Percent: 80

$$20 = \frac{80}{100} X$$

$$X = 25$$

Example 3) A volleyball team won 90% of 80 games played. How many games did they win?

Part: X

Whole: 80

Percent: 90

$$\text{Part} = \text{Whole} (\%)$$

$$X = 80 (.90)$$

$$X = 72 \text{ wins}$$

Now, You Try! Use the percent formula to answer the following questions.

4) 6 is 30% of what number?

Part: 6

Whole: X

Percent: 30

$$\text{Part} = \text{Whole} (\%)$$

$$6 = \frac{30}{100} X$$

$$X = 20$$

5) In a bag of candy, 25% of the 300 pieces are red. How many pieces of candy are red?

Part: X

Whole: 300

Percent: 25

$$\text{Part} = \text{Whole} (\%)$$

$$X = 300 (.25)$$

$$X = 75$$

6) What is 5% of 120?

$$\text{Part} = \text{Whole} (\%)$$

$$X = .05 (120)$$

$$X = 6$$

7) 40% of the students on a field trip love the museum. If 20 students love the museum, how many students are on the field trip?

Part: 20

Whole: X

Percent: 40

$$\text{Part} = \text{Whole} (\%)$$

$$20 = \frac{40}{100} X$$

$$X = 50 \text{ total Students}$$

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

Boys: 16

Girls: $28 - 16 = 12$

Part: 12

Whole: 28

Percent: X

Part = Whole (%)

$$\frac{12}{28} = \frac{28X}{28}$$

$$X = 0.4285... \rightarrow 42.9\%$$

9) Donovan took a math test and got 35 correct answers and 10 incorrect answers. What percent of his answers were correct? Round to the nearest tenth of a percent.

Total questions: 45

Part: 35

Whole: 45

Percent: X

Part = Whole (%)

$$\frac{35}{45} = \frac{45X}{45}$$

$$X = 0.7777... \rightarrow 77.8\%$$

10) A student answered 86 problems on a test correctly and received a grade of 98%. How many problems were on the test if the problems were worth the same number of points? Round to the nearest whole number.

Part: 86

Whole: X

Percent: 98

Part = Whole (%)

$$\frac{86}{.98} = \frac{.98X}{.98}$$

$$X = 87.7 \rightarrow 88 \text{ questions}$$