

Lesson 4 Reteach

The Percent Equation

To solve any type of percent problem, you can use the **percent equation**, $\text{part} = \text{percent} \cdot \text{whole}$, where the percent is written as a decimal.

Example 1

600 is what percent of 750?

600 is the part and 750 is the whole. Let n represent the percent.

$$\underbrace{\text{part}}_{600} = \underbrace{\text{percent}}_n \cdot \underbrace{\text{whole}}_{750}$$

Write the percent equation.

$$\frac{600}{750} = \frac{750n}{750}$$

Divide each side by 750.

$$0.8 = n$$

Simplify.

$$80\% = n$$

Write 0.8 as a percent. So, 600 is 80% of 750.

Example 2

45 is 90% of what number?

45 is the part and 90% or 0.9 is the percent. Let w represent the whole.

$$\underbrace{\text{part}}_{45} = \underbrace{\text{percent}}_{0.9} \cdot \underbrace{\text{whole}}_w$$

Write the percent equation.

$$\frac{45}{0.9} = \frac{0.9w}{0.9}$$

Divide each side by 0.9.

$$50 = w$$

Simplify. So, 45 is 90% of 50.

Exercises

Write an equation for each problem. Then solve. Round to the nearest tenth if necessary.

1. What percent of 56 is 14?

$$14 = n \cdot 56; 25\%$$

2. 36 is what percent of 40?

$$36 = n \cdot 40; 90\%$$

3. 80 is 40% of what number?

$$80 = 0.4 \cdot w; 200$$

4. 65% of what number is 78?

$$78 = 0.65 \cdot w; 120$$

5. What percent of 2,000 is 8?

$$8 = n \cdot 2,000; 0.4\%$$

6. What is 110% of 80?

$$p = 1.1 \cdot 80; 88$$

7. 85 is what percent of 170?

$$85 = n \cdot 170; 50\%$$

8. Find 30% of 70.

$$p = 0.3 \cdot 70; 21$$

Lesson 4 Skills Practice

The Percent Equation

Write an equation for each problem. Then solve. Round to the nearest tenth if necessary.

1. 25% of 176 is what number?

$$p = 0.25 \cdot 176; 44$$

2. What is 90% of 20?

$$p = 0.9 \cdot 20; 18$$

3. 24 is what percent of 30?

$$24 = n \cdot 30; 80\%$$

4. 80% of what number is 94?

$$94 = 0.8 \cdot w; 117.5$$

5. What is 60% of 45?

$$p = 0.6 \cdot 45; 27$$

6. 9 is what percent of 30?

$$9 = n \cdot 30; 30\%$$

7. What percent of 125 is 25?

$$25 = n \cdot 125; 20\%$$

8. What is 120% of 20?

$$p = 1.2 \cdot 20; 24$$

9. 2% of what number is 5?

$$5 = 0.02 \cdot w; 250$$

10. 15% of 290 is what number?

$$p = 0.15 \cdot 290; 43.5$$

11. 16 is what percent of 4,000?

$$16 = n \cdot 4,000; 0.4\%$$

12. What is 140% of 60?

$$p = 1.4 \cdot 60; 84$$

13. 344.8 is what percent of 862?

$$215 = n \cdot 860; 25\%$$

14. 6% of what number is 21?

$$21 = 0.06 \cdot w; 350$$

15. What number is 60% of 605?

$$p = 0.6 \cdot 605; 363$$

16. 32% of 250 is what number?

$$p = 0.32 \cdot 250; 80$$

17. Find 30% of 70.

$$p = 0.3 \cdot 70; 21$$

18. What is 80% of 65?

$$p = 0.8 \cdot 65; 52$$