

Name: *Key*

Class:

Topic:

Date:

Main Ideas/Questions

Notes

Percent Proportion

In a Percent Proportion: One ratio compares a part of a quantity to the whole quantity. The other ratio shows the equivalent percent written as a fraction over 100.

Depending on the wording of the problem, you may find the following two formulas beneficial in setting up your proportion:

$$\frac{a}{w} = \frac{p}{100} \quad \longleftrightarrow \quad \boxed{\phantom{\frac{a}{w} = \frac{p}{100}}}$$

Examples

Directions: Use the percent proportion to solve each problem.

1. 18 is what percent of 40?

$$\frac{18}{40} = \frac{p}{100} \quad 40p = 1800$$

$$p = 45\%$$

2. What percent of 75 is 80?

3. What is 30% of 15?

$$\frac{a}{15} = \frac{30}{100} \quad 100a = 450$$

$$a = 4.5$$

4. Find 8.5% of 160.

5. 28 is 4% of what number?

$$\frac{28}{w} = \frac{4}{100} \quad 4w = 2800$$

$$w = 700$$

6. 86% of what number is 77.4?

7. Find 28.5% of 200.

$$\frac{a}{200} = \frac{28.5}{100} \quad 100a = 5700$$

$$a = 57$$

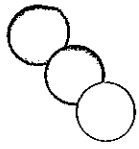
8. 52 is what percent of 125?

9. 7.5% of what number is 21?

$$\frac{21}{w} = \frac{7.5}{100} \quad 7.5w = 2100$$

$$w = 280$$

10. What is 64% of 80?



11. What percent is 0.5 of 3?

$$\begin{array}{l}
 p \quad a \quad w \\
 \frac{0.5}{3} = \frac{p}{100} \quad \frac{3p}{3} = \frac{50}{3} \\
 p = 16.6\%
 \end{array}$$

12. 103.2 is 48% of what number?

Applications

$$\begin{array}{r}
 12 \\
 425 \\
 \hline
 7 \quad 96 \\
 2550 \\
 21250 \\
 \hline
 23800
 \end{array}$$

13. A book collector has 425 books, 56% of which were published prior to 1900. How many books were published prior to 1900?

$$\begin{array}{l}
 \frac{a}{425} = \frac{56}{100} \\
 100a = 23800 \\
 \frac{100a}{100} = \frac{23800}{100} \\
 a = 238 \text{ books}
 \end{array}$$

14. Twelve of the 28 dogs at the shelter are purebred. What percent of the dogs are purebred?

62

15. Bethany uses 8% of her weekly paycheck to pay for gas. If she spent \$34.12 on gas this week, how much was her paycheck?

$$\begin{array}{l}
 \frac{34.12}{w} = \frac{8}{100} \\
 8w = 3412 \\
 \frac{8w}{8} = \frac{3412}{8} \\
 w = \$426.50
 \end{array}$$

16. In Key West, Florida, it is sunny 75% of the days. How many days would you expect it to be sunny in the month of October? Round to the nearest day.

$$\begin{array}{r}
 426.50 \\
 8 \overline{) 3412.0} \\
 \underline{32} \\
 21 \\
 \underline{16} \\
 52 \\
 \underline{48} \\
 40 \\
 \underline{40} \\
 0
 \end{array}$$

17. On the high school football team, 62.5% of the players are juniors and seniors. If there are 11 juniors and 19 seniors on the team, find the total number of players.

$$\begin{array}{l}
 \frac{30}{w} = \frac{62.5}{100} \\
 62.5w = 3000 \\
 w = 48 \text{ players}
 \end{array}$$

18. Jenna found that 15% of the skittles in a bag of skittles were purple. If there were 60 skittles in the bag, how many were not purple?

$$\begin{array}{r}
 12 \\
 62.5 \\
 \hline
 8 \overline{) 2500} \\
 \underline{62} \\
 148 \\
 \underline{148} \\
 0
 \end{array}$$

