

Self-Check for Tutorial 17 Using Rates and Proportions

- An alloy weighs 33g. Twelve of the grams are silver. What is the ratio of silver to non-silver?
 - 1 : 3
 - 4 : 7
 - 12 : 33
 - 21 : 33
- Five of every seven students walk to the local school. How many students are in the school if 135 walk?
 - 189
 - 95
 - 140
 - 138
- Which of these shows a proportion written as a direct variation?
 - $y = 3/x$
 - $y = 3x$
 - $y = x/3$
 - $y = 3x^2$
- A car has a unit rate for mileage of 25 mpg. How many gallons are needed for a trip of 360 miles?
 - 9.0 gallons
 - 14.4 gallons
 - 144.0 gallons
 - 9000.0 gallons

Solutions to Self-Check for Tutorial 17 Using Rates and Proportions

1. An alloy weighs 33g. Twelve of the grams are silver. What is the ratio of silver to non-silver?

Amount of non-silver is
 $33 - 12 = 21$. The ratio of silver to non-silver is
 $12 : 21$

B. 4 : 7

3. Five of every seven students walk to the local school. How many students are in the school if 135 walk?

Set up and solve the proportion

$$\frac{5}{7} = \frac{135}{x}$$

A. 189

2. Which of these shows a proportion written as a direct variation?

For a direct variation, y is directly proportional to x with 3 as the constant of variation. Write the proportion as

$$\frac{y}{x} = \frac{3}{1}$$

B. $y = 3x$

4. A car has a unit rate for mileage of 25 mpg. How many gallons are needed for a trip of 360 miles?

Set up and solve

$$\frac{25}{1} = \frac{360}{x}$$

B. 14.4 gallons