

2.27

Word Problem on Proportions: Problem Type 1

• Example 1

A gas-oil mixture needed for an industrial engine requires $\frac{1}{16}$ gal of oil to 1 gal of gasoline. If $2\frac{1}{2}$ gal of oil are used, how much gasoline will be needed?

The proportions can be written as

$$\frac{\frac{1}{16}}{1} = \frac{\frac{5}{2}}{x}$$

$$\frac{x}{16} = \frac{5}{2}$$

$$2x = 80$$

$$x = 40$$

40 gal of gas are needed.

• • • CHECK YOURSELF 1

A particular recipe requires 3 cups of flour to 1 cup of sugar. Find the number of cups of flour needed if $1\frac{1}{2}$ cups of sugar is used.

• • • CHECK YOURSELF ANSWER

1. $4\frac{1}{2}$ cups.

2.27 Exercises

Name _____

Section _____

Date _____

A N S W E R S

1. _____

2. _____

3. _____

4. _____

Solve.

1. A recipe calls for 2 cups of water to $\frac{1}{2}$ cup of flour. Find the number of cups of flour needed if 3 cups of water are used.

2. If $2\frac{1}{2}$ yards of concrete are needed for each driveway, how many driveways can be done with 40 yards of concrete?

3. A gas-oil mixture requires that for each 1 gallon of gasoline, $1\frac{1}{2}$ cans of oil are needed. How many cans of oil will be needed for 18 gallons of gas?

4. If 1 gallon of paint will cover $3\frac{1}{3}$ walls, how many gallons will be needed for 16 walls?