

Lesson 5-3

Example 1

Solve each equation. Check the solution.

a. $3r = -63$

b. $\frac{t}{-5} = -9$

Solution

a. $3r = -63$

$$\frac{3r}{3} = \frac{-63}{3}$$

$$1r = -21$$

$$r = -21$$

Check

$$3r = -63$$

$$3(-21) = -63$$

$$-63 = -63 \quad \checkmark$$

b. $\frac{t}{-5} = -9$

$$-5 \frac{t}{-5} = -5(-9)$$

$$1t = 45$$

$$t = 45$$

Check

$$\frac{t}{-5} = -9$$

$$\frac{45}{-5} = -9$$

$$-9 = -9 \quad \checkmark$$

Example 2

Solve each equation using reciprocals. Check the solution.

a. $15k = -75$

b. $\frac{5}{6}z = 20$

Solution

a. $15k = -75$
 $1\frac{1}{15}215k = 1\frac{1}{15}2(-75)$
 $1k = -5$
 $k = -5$

Check

$$15k = -75$$

$$15(-5) = -75$$

$$-75 = -75 \checkmark$$

b. $\frac{5}{6}z = 20$
 $1\frac{6}{5}2\frac{5}{6}z = 1\frac{6}{5}220$
 $1z = \frac{120}{5}$
 $z = 24$

Check

$$\frac{5}{6}z = 20$$

$$\frac{5}{6}(24) = 20$$

$$20 = 20 \checkmark$$

Example 3

Write an equation for each sentence.

a. The product of twelve and n is thirty-six.

b. The quotient of negative fourteen and q is seven.

Solution

a. $12n = 36$

b. $\frac{-14}{q} = 7$

Example 4

RETAIL Maria spent a total of \$83.94 (not including sales tax) for six CDs that all cost the same amount. What was the price of each CD?

Solution

Let p equal the price of one CD.

$$6p = 83.94$$

$$\frac{6p}{6} = \frac{83.94}{6}$$

$$p = 13.99$$

The price of each CD was \$13.99.