EXAMPLE 2 Solving Equations Using Multiplication or Division

a. Solve $-\frac{3}{4}n = -2$.

$$-\frac{3}{4}n = -2$$ Write the equation.

Use the reciprocal. → $$-\frac{4}{3} \cdot \left(-\frac{3}{4}n\right) = -\frac{4}{3} \cdot (-2)$$ Multiplication Property of Equality

$$n = \frac{8}{3}$$ Simplify.

∴ The solution is $n = \frac{8}{3}$.

Practice

b. Solve $\pi x = 3\pi$.

$\pi x = 3\pi$ Write the equation.

Undo the multiplication. → $\frac{\pi x}{\pi} = \frac{3\pi}{\pi}$ Division Property of Equality

$x = 3$ Simplify.

∴ The solution is $x = 3$.

Check

$\pi x = 3\pi$

$\pi(3) \stackrel{?}{=} 3\pi$

$3\pi = 3\pi$ ✓

EXAMPLE 3 Identifying the Solution of an Equation

What value of k makes the equation $k + 4 \div 0.2 = 5$ true?

Ⓐ -15 Ⓑ -5 Ⓒ -3 Ⓓ 1.5

$k + 4 \div 0.2 = 5$ Write the equation.

$k + 20 = 5$ Divide 4 by 0.2.

$-20 \quad -20$ Subtraction Property of Equality

$k = -15$ Simplify.

∴ The correct answer is Ⓐ.