

Chapter 2 Equations in One Variable

Lesson 2-1 Solve Equations with Rational Coefficients

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3 Solve $-\frac{7}{8}k = -21$. Check your solution.

$$-\frac{7}{8}k = -21 \quad \text{Write the equation.}$$

$$\left(-\frac{8}{7}\right)\left(-\frac{7}{8}\right)k = -21\left(-\frac{8}{7}\right) \quad \text{Multiply each side by the reciprocal of } -\frac{7}{8}.$$

$$k = 24 \quad \text{Simplify.}$$

Check the solution by replacing k with 24.

$$-\frac{7}{8}k = -21 \quad \text{Write the equation.}$$

$$-\frac{7}{8}(24) \stackrel{?}{=} -21 \quad \text{Replace } k \text{ with 24.}$$

$$-21 \stackrel{?}{=} -21 \quad \text{Multiply.}$$

$$-21 = -21 \checkmark \quad \text{The sentence is true.}$$

11 José correctly answered 80% of the questions on a language arts quiz. If he answered 16 questions correctly, how many questions were on the language arts quiz? Define a variable. Then write and solve an equation for this situation.

Let q = the number of questions on the quiz.

$$0.80q = 16 \quad \text{Write the equation.}$$

$$\frac{0.80q}{0.80} = \frac{16}{0.80} \quad \text{Division Property of Equality}$$

$$q = 20 \quad \text{Simplify.}$$

So, there were 20 questions on the language arts quiz.