

## Solving Two-Step Equations (ALG.EQ.02)

Solve each equation. Write the name of the property used for each step.

1.  $4n + 3 = 15$       2.  $\frac{p-3}{7} = 1$       3.  $\frac{3}{7}t + \frac{1}{14} = \frac{1}{2}$       4.  $\frac{1}{3} = 2 - 10x$

Write and solve an equation for each sentence.

- Nine less than twice a number equals twenty-one.
- Eight decreased by three times a number equals two.
- The sum of seven times a number and four is thirty-two.
- Nine is the difference of two-thirds a number and negative eleven.

For each word problem, define a variable, then write and solve an equation.

- Carlos is saving money to buy a canoe that costs \$315. He has saved \$70 so far and each week he adds \$35 to his savings. How long will it take him to save enough money to purchase the canoe?
- Emma's phone company charges a monthly fee of \$35 for service and 3¢ per minute to talk. How many minutes did she talk last month if her bill was \$57.50.
- Jason is the sum of half of Aaron's age and eleven. If Jason is twenty years old, then how old is Aaron?

Solve each equation.

12.  $-w + 6 = 2$       13.  $4n + 3 = 15$       14.  $\frac{d+5}{4} = 3$

15.  $14 = 2 - \frac{4}{3}c$       16.  $1.5 = \frac{g-0.375}{0.75}$       17.  $15 - 8x = 79$

18.  $-3 = \frac{p-5}{4}$       19.  $\frac{2}{3}k - \frac{4}{5} = \frac{8}{15}$       20.  $-11 + \frac{y}{4} = -8$

- If  $\frac{g-7}{-2} = 5$ , then determine the value of  $g^2$ .
- If  $5 - 4p = -7$ , then determine the value of  $3p - 5$ .
- If  $\frac{3}{4} = \frac{1}{2} - \frac{3}{8}y$ , then determine the value of  $1 - 3y$ .
- If  $-0.8 + 0.03m = 0.4$ , then determine the value of  $\sqrt{m+9} - 2$ .