Unit 2, Lesson 13

# Making New, True Equations

Let's practice solving equations.

## 13.1 Worked Example: Solve Equations

Solve the equation $a + 2b = 5$ for $b$.

Step 1:

$$\begin{array}{rcl} & a + 2b = 5 & \\ -a & & -a \\ & 2b = 5 - a & \end{array}$$

Step 2:

$$\begin{array}{rcl} & 2b = 5 - a & \\ \div 2 & & \div 2 \\ & b = \frac{5-a}{2} \text{ or } b = \frac{5}{2} - \frac{a}{2} & \end{array}$$

## 13.2 Solving for a Variable

Solve for the indicated variable.

1. Solve for $k$. $2t + k = 6$

2. Solve for $n$. $10n = 2p$

3. Solve for $c$. $12 - 6d = 3c$

4. Solve for $g$. $h = 8g + 4$

5. Solve for $x$. $4x + 3y = 12$

6. Solve for $y$. $4x + 3y = 12$

# 13.3 Row Game: Solving Some Equations

Work independently on your column. Partner A completes column A only, and partner B completes column B only. Your answers in each row should match. Work on one row at a time, and check whether your answer matches your partner's before moving on. If you don't get the same answer, work together to find any mistakes.

Solve each equation for $x$.

| row | column A | column B |
|---|---|---|
| 1 | $4(2x + 8) - 10 = 14$ | $4 + 2(-3x + 5) = 20$ |
| 2 | $3(x - 4) + 6 = 60$ | $3(\frac{1}{2}x + 9) - 5 = 55$ |
| 3 | $4(\frac{x+3}{2}) - 5 = 10$ | $7 - 2(6x + 1) = -49$ |
| 4 | $2x + (5 - 3x) = 14$ | $1 = 5x + 10 - 4x$ |
| 5 | $4x + 2(3 - x) = 16$ | $x + 2(x - 4) + 5 = 12$ |
| 6 | $2x - 2(3x - 1) = 8$ | $-6x + 2(4x + 5) = 7$ |