



# 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:

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

Step 2:

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

## 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	$2x - 2(3x - 1) = 8$	$-6x + 2(4x + 5) = 7$