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:

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

$-a$ $\quad$ $-a$

Step 2:

$$\begin{aligned} 2b &= 5 - a \\ b &= \tfrac{5-a}{2} \text{ or } b = \tfrac{5}{2} - \tfrac{a}{2} \end{aligned}$$

$\div 2$ $\quad$ $\div 2$

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