

Warm Up:

Simplify each expression.

1. $5(k - 3) - 7$

2. $3(a + 2) - 5a + 3$

3. $12 - 3(2t - 7)$

Speak Like A Mathematician:

multi-step equations:

Example 1: Solving Equations - Level 3

$$2a - 6 = 4$$

$$\frac{n+1}{-2} = 15$$

$$3m + 4 = -11$$

$$8 = \frac{k-5}{7}$$

$$8 = 16 + 8n$$

$$\frac{k}{3} + 4 = -16$$

Mr. Nappier's Easy-Button Equation Rules:

1. Think OUTSIDE the box.
2. Equations MUST remain equal.
3. Opposites make ZERO.
4. Quick Check with Substitution.
5. Side by Side? You must DIVIDE.

Example 2: Writing and Solving Equations

- The student council raised $\frac{2}{5}$ of the money they need to cover the cost of the school dance with a bake sale. They raised an additional \$150 selling raffle tickets. If the student council has raised \$630, what is the cost of the dance? Write an equation for this scenario, then solve the equation.
- A sporting goods store sold $\frac{2}{3}$ of its basketballs, but 8 were returned. Now the store has 38 basketballs. How many were there originally? Write an equation for this problem. Then solve the equation.

Example 3: Solve Multi-Step Equations with Letter Coefficients

- Solve $ax + 7 = 5$ for x . Assume that $a \neq 0$.
- Solve $2 - ax = -8$ for x . Assume that $a \neq 0$.