

Solving Multi-Step Equations

10-23-17

Warm-up:

combine like terms

$$1. \frac{5x+3+7x}{12x+3}$$

$$2. \frac{4m-2m+1}{2m+1}$$

Steps to solving

1. clear any fractions (LCM)
2. use the distributive property to remove the parenthesis
3. combine like terms on the same side of = sign.
4. use inverse operations to solve for the variable.

Examples:

$$1. 3x - 4x + 6 = -2$$

$$-1x + 6 = -2$$

$$-6 \quad -6$$

$$-1x = -8$$

$$\boxed{x = 8}$$

$$2. 2(a-4) + 15 = 13$$

$$2a - 8 + 15 = 13$$

$$2a + 7 = 13$$

$$-7 \quad -7$$

$$2a = 6$$

$$\boxed{a = 3}$$

$$3. -4x - 3(2x - 5) = 31$$

$$-4x - 6x + 15 = 31$$

$$-10x + 15 = 31$$

$$-15 \quad -15$$

$$-10x = 16$$

$$\boxed{x = -1.6}$$