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Multi-Step Equations with like terms on the same side(no negative coefficients)

1. $-12 + 3x + 2x = 3$

$-12 + 5x = 3$

$+12 \qquad +12$

$\frac{5x}{5} = \frac{15}{5}$

$x = 3$

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

$-12 + 3x + 2x = 3$

$+12 \qquad +12$

$3x + 2x = 15$

$5x = 15$

$x = 3$

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

$+2 \qquad +2$

$3x - 1x = 6$

$2x = 6$

$x = 3$

4. $x + 3x - 16 = 4$

Multi-Step Equations with like terms on the same side(negative coefficients)

1. $-1 + 1x - 3x = 5$

$+1 \qquad +1$

$1x - 3x = 6$

$\frac{-2x}{-2} = \frac{6}{-2}$

$x = -3$

2. $-x - 9 + 3x = 3$

3. $-3x - 23 + 2x = 7$

$-1x - 23 = 7$

$+23 \quad +23$

$\frac{-1x}{-1} = \frac{30}{-1}$

$x = -30$

4. $-x - 3x + 16 = 4$

Multi-Step Equations with distributive property and like terms on the same side(no negative coefficients)	1. $4x + 7(x - 3) = 34$ $4x + 7x - 21 = 34$ $11x - 21 = 34$ $+21 \quad +21$ $\frac{11x}{11} = \frac{55}{11}$ $x = 5$	2. $2x + 3(2x - 4) = 44$ $2x + 6x - 12$ $8x - 12 = 44$ $+12 \quad +12$ $8x = 56$ $x = 7$
	3. $3x + 2(x + 2) = 49$ $3x + 2x + 4 = 49$ $5x + 4 = 49$ $-4 \quad -4$ $\frac{5x}{5} = \frac{45}{5}$ $x = 9$	4. $2x + 7(x - 2) = 31$ $2x + 7x - 14 = 31$ $9x - 14 = 31$ $+14 \quad +14$ $\frac{9x}{9} = \frac{45}{9}$ $x = 5$

Multi-Step Equations with distributive property and like terms on the same side(negative coefficients)

1. $-4x + 5(-x + 4) = 34$

$-4x - 5x + 20 = 34$

$-9x + 20 = 34$

$-20 \quad -20$

$\frac{-9x}{-9} = \frac{14}{-9}$

$x = \frac{14}{-9}$

2. $-2x + 4(-2x - 2) = 44$

$-2x - 8x - 8 = 44$

$-10x - 8 = 44$

$+8 \quad +8$

$-10x = 52$

$x = \frac{52}{-10}$

3. $-3x - 2(2x + 3) = 48$

$-3x - 4x - 6 = 48$

$-7x - 6 = 48$

$+6 \quad +6$

$\frac{-7x}{-7} = \frac{54}{-7}$

$x = \frac{54}{-7}$

4. $4x - 7(x - 2) = 31$

$4x - 7x + 14 = 31$

$-3x + 14 = 31$

$-14 \quad -14$

$\frac{-3x}{-3} = \frac{17}{-3}$

$x = \frac{17}{-3}$