Solving 2 step equations

Getting rid of fractions first

1. $9 = \frac{x}{2} + 4$

$-4 \quad -4$

$(2)\ 5 = \frac{x}{2}\ (2)$

$10 = x$

2. $(2)\ 9 = \frac{x}{2} + 4\ (2)$

$18 = 1x + 8$

$-8 \quad -8$

$10 = x$

3. $\frac{x}{-3} - 2 = 5$

$+2 \quad +2$

$(-3)\ \frac{x}{-3} = 7\ (-3)$

$x = -21$

4. $(-3)\ \frac{x}{-3} - 2 = 5\ (-3)$

$x + 6 = -15$

$-6 \quad -6$

$x = -21$

Multi-Step Equations with distributive property (no negative coefficients)

- Do 2 with Distributive Property First
- Do 2 with Dividing First

1. $5(3x+3) = 75$

$15x + 15 = 75$
$-15 \quad -15$
$\frac{15x}{15} = \frac{60}{15}$
$x = 4$

2. $3(2x+4) = 30$

$6x + 12 = 30$
$-12 \quad -12$
$\frac{6x}{6} = \frac{18}{6}$
$x = 3$

3. $\frac{3(5x-4)}{3} = \frac{48}{3}$

$5x - 4 = 16$
$+4 \quad +4$
$\frac{5x}{5} = \frac{20}{5}$
$x = 4$

4. $\frac{2(3x-2)}{2} = \frac{26}{2}$

$3x - 2 = 13$
$+2 \quad +2$
$\frac{3x}{3} = \frac{15}{3}$
$x = 5$

Multi-Step Equations with distributive property (negative coefficients)

1. $-5(4x+4) = 80$

$-20x - 20 = 80$
$+20 \quad +20$
$\frac{-20x}{-20} = \frac{100}{-20}$
$x = -5$

2. $4(-5x+4) = 76$

$-20x + 16 = 76$
$-16 \quad -16$
$\frac{-20x}{-20} = \frac{-60}{-20}$
$x = -3$

3. $\frac{-3(-4x-4)}{-3} = \frac{24}{-3}$

$-4x - 4 = -8$
$+4 \quad +4$
$\frac{-4x}{-4} = \frac{-4}{-4}$
$x = 1$

4. $\frac{2(-2x-3)}{2} = \frac{24}{2}$

$-2x - 3 = 12$
$+3 \quad +3$
$\frac{-2x}{-2} = \frac{15}{-2}$
$x = -7.5$