

LINEAR EQUATIONS

Solving Linear Equations

To solve linear equations requiring the addition principle only:

1. Simplify both sides of the equation as needed.
 - a. Distribute to clear parentheses.
 - b. Combine like terms.
2. Use the addition principle so that all variable terms are on one side of the equation and all constants are on the other side. Then combine like terms.

Tip: Clear the variable term that has the lesser coefficient to avoid negative coefficients.

Example: $4x + 6 = 8x - 10$

$$4x - 8x = -10 - 6$$

$$-4x = -16$$

$$\frac{-4x}{-4} = \frac{-16}{-4}$$

$$\therefore x = 4$$

Practice Exercise

Solve for x in the following linear equations

- a. $2x - 1 = -9x + 6$
- b. $6x - 1 = 3x - 2$
- c. $4x - 8 = -5x + 1$
- d. $3(x + 5) = 3x + 9$
- e. $\frac{1}{2}x - 10 = 4x + 4$
- f. $x - 2 = 4(2x + 3)$
- g. $-\frac{1}{2}x - \frac{1}{6} = 5x + 1\frac{5}{6}$
- h. $x + 7 = 3(2x + 4)$