

Solve each of the following equations. Make sure to check your solutions.

1. Linear Equations

(a) $3(x - 7) - 2(5x - 1) = 3x + 1$

(b) $3(x - 2) - 2(5x - 4) = 2 - x$

(c) $3(x - 2) - 2(5x - 4) = 11 - 7x$

(d) $\frac{3x - 1}{5} - \frac{5 - x}{2} = 4x + 6$

(e) $\frac{x + 4}{2} + \frac{5 - 2x}{3} = \frac{22 - x}{6}$

2. Quadratic or higher degree equations

(a) $x^2 = 25$

(b) $6x^2 = 7x + 3$

(c) $30x^3 + 4x^4 = 154x^2$

3. Absolute value equations.

(a) $|2x - 7| + 3 = 4$

(b) $\left|3x - \frac{1}{2}\right| + 4 = 1$

(c) $2|3x - 7| - 4 = -4$