

Linear Equations

Solve the following equations.

1. $t = 2 - 2[2t - 3(1 - t)]$

2. $7 + \frac{4x}{9} = \frac{x}{2}$

3. $\frac{x}{2} + \frac{x}{3} = 7$

4. $9(3 - x) = \frac{3}{4}(x - 3)$

5. $\frac{x}{5} + \frac{2(x - 4)}{10} = 7$

6. $\frac{3}{2}(4x - 3) = 2[x - (4x - 3)]$

7. $\frac{-4}{x - 1} = \frac{7}{2 - x} + \frac{3}{x + 1}$

Equations Leading to Linear Equations

Solve the following equations

1. $\frac{4p}{7-p} = 1$

2. $\frac{1}{x} + \frac{1}{5} = \frac{4}{5}$

3. $\frac{x+2}{x-1} + \frac{x+1}{3-x} = 0$

4. $\frac{x}{x+3} - \frac{x}{x-3} = \frac{3x-4}{x^2-9}$

5. $\frac{9}{x-3} = \frac{3x}{x-3}$

6. $\frac{7}{3-x} = 0$

7. $6 - \sqrt{2x+5} = 0$

8. $\sqrt{5+2x} = \sqrt{4x-2}$

9. $\sqrt{\frac{x}{2}+1} = \frac{2}{3}$

10. $\sqrt{\frac{1}{w}} - \sqrt{\frac{2}{5w-2}} = 0$

Absolute Value

Solve the following equations.

8. $|4 + 3x| = 6$

9. $|1 - 2x| = 1$

10. $|5x - 2| = 0$

11. $\left|\frac{x}{3}\right| = 2$

Quadratic Equations

Solve the following quadratic equations by factoring.

11. $y(2y + 3) = 5$

12. $x^3 - 64x = 0$

13. $2p^2 = 3p$

14. $-x^2 + 3x + 10 = 0$

15. $3w^2 - 12w + 12 = 0$

16. $\frac{1}{7}y^2 = \frac{3}{7}y$

Find all real roots by using the quadratic formula.

1. $4 - 2n + n^2 = 0$

2. $w^2 - 2\sqrt{2}w + 2 = 0$

3. $6x^2 + 7x - 5 = 0$