

CLASS X (Quadratic equations)

1. Which of the following are quadratic equations?

(a) $3x^2 + 11x + 10 = 0$

(b) $x^2 + 1x = 4$

(c) $x - 5x = x^2$

(d) $2x^2 - \sqrt{5}x + 7 = 0$

(e) $x^2 - \sqrt{x} - 5 = 0$

(f) $x^2 - 3x = 0$

(g) $x^2 + 1/x^2 = 3$

(h) $x(x + 1) - (x + 2)(x - 2) = -8$

2. Find if the given values are the solution of the given equations.

(a) $4x^2 + 5x = 0$; $x = 0$ and $x = -5/4$

(b) $3x^2 + 11x + 10 = 0$; $x = -2/3$ and $x = -10/3$

(c) $2x^2 - x - 9 = 0$; $x = 2$ and $x = 3$

(d) $x^2 - x - 1 = 0$; $x = 1$ and $x = -1$

(e) $x^2 - \sqrt{2}x - 4 = 0$; $x = -2\sqrt{2}$ and $x = \sqrt{2}$

3. Solve the following quadratic equations and find the solution.

(a) $x^2 - 2x - 8 = 0$

(b) $3x^2 - 13x + 12 = 0$

(c) $x^2 + x - 2 = 0$

(d) $2x^2 + 5x + 3 = 0$

(e) $9x^2 - 34x - 8 = 0$

(f) $10x^2 - 1x = 3$

(g) $(x^2 - 1)/(x^2 + 1) = 4/5$

(h) $(3x^2 + 7)/(x^2 + 4) = 2$

$$(i) x^2 - 4x - 21 = 0$$

$$(j) \frac{1}{x+5} = \frac{1}{3} - \frac{1}{x-3}$$

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

$$(l) 5x^5 - 2 = \frac{2}{x^2}$$

$$(m) \frac{x+1}{x-1} - \frac{x-1}{x+1} = \frac{5}{6}$$

$$(n) \frac{1}{x-2} + \frac{2}{x-1} = \frac{6}{x}$$

$$(o) \frac{2x-5}{x-3} - \frac{25}{3} = -\frac{2x}{x-4}$$

$$(p) \frac{4}{x+4} - \frac{1}{x+1} = \frac{2}{x+2}$$

$$(q) 9x - \frac{162}{x} - 63 = 0$$

$$(r) \frac{15}{15-x} = \frac{3x}{10}$$

$$(s) x^2 - 7x - 60 = 0$$

$$(t) (4-3x)(2x+3) = 5x$$

$$(u) \frac{2x^2+2}{x^2-2x} = \frac{17}{4}$$

$$(v) 14x + 5 - 3x^2 = 0$$