

# RS Aggarwal Class 10 Solutions

## Quadratic Equations

## Definition

- In mathematics, a **quadratic equation** is a polynomial equation of the second degree. The general form is

$$ax^2 + bx + c = 0$$

- where  $x$  represents a variable or an unknown, and  $a$ ,  $b$ , and  $c$  are constants with  $a \neq 0$ . (If  $a = 0$ , the equation is a linear equation.)
- The constants  $a$ ,  $b$ , and  $c$  are called respectively, the quadratic coefficient, the linear coefficient and the constant term or free term.

Equation	Is it Quadratic?	Explanation
$3x^3 - 4x + 5$	No	The first term is raised to the 3 <sup>rd</sup> power. It must be raised to the 2 <sup>nd</sup> power in order to be quadratic.
$5x^2 - 4x + 2$	Yes	This equation is in the correct form: $ax^2 + bx + c$
$7x^2 = 49$	Yes	This equation can be rewritten as: $7x^2 - 49$ . In this equation, $b$ is 0. $b$ or $c$ can be 0; however, $a$ cannot be 0.
$2x^2 = 8x - 3$	Yes	This equation can be rewritten as $2x^2 - 8x + 3$ which would then be in the correct form of: $ax^2 + bx + c$ .

(i)  $x^2 - x + 3 = 0$  is a quadratic polynomial.

$\therefore x^2 - x + 3 = 0$  is a quadratic equation.

(ii)  $2x^2 + \frac{5}{2}x - \sqrt{3} = 0$

$$\Rightarrow 4x^2 + 5x - 2\sqrt{3} = 0$$

Clearly is  $4x^2 + 5x - 2\sqrt{3} = 0$  a quadratic polynomial.

$\therefore 2x^2 + \frac{5}{2}x - \sqrt{3} = 0$  is a quadratic equation.

Read more about [RS Aggarwal Class 10 Solutions Quadratic Equations](#)