

Quadratic Simultaneous Equations

Quadratic simultaneous equations are two or more equations that share variables that are raised to powers up to 2.

 Example

$$y = x + 3$$

$$y = x^2 + 5x - 2$$

This is a pair of simultaneous equations - there is **one linear** equation and **one quadratic** equation.

$$x + 3 = x^2 + 5x - 2$$

$$\begin{array}{r} -x \\ -3 \end{array}$$

$$\begin{array}{r} -x \\ -3 \end{array}$$

$$0 = x^2 + 4x - 5$$

$$0 = (x + 5)(x - 1)$$

$$x + 5 = 0$$

$$\underline{\underline{x = -5}}$$

$$y = -5 + 3$$

$$\underline{\underline{y = -2}}$$

$$x - 1 = 0$$

$$\underline{\underline{x = 1}}$$

$$y = 1 + 3$$

$$\underline{\underline{y = 4}}$$

