

Équation du 2nd degré

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

$$x^2 + x - 2 = 0 \quad x^2 - 4x + 4 = 0 \quad -6x^2 + 9x - 4 = 0$$

$$a=1 \quad b=1 \quad c=-2 \quad a=1 \quad b=-4 \quad c=4 \quad a=-6 \quad b=9 \quad c=-4$$

Calculer Δ :

$$\Delta = b^2 - 4 \times a \times c$$

$$\Delta = 1^2 - 4 \times 1 \times (-2)$$

$$\Delta = 1 + 8$$

$$\Delta = 9 > 0$$

Calculer Δ :

$$\Delta = b^2 - 4 \times a \times c$$

$$\Delta = (-4)^2 - 4 \times 1 \times 4$$

$$\Delta = 16 - 16$$

$$\Delta = 0$$

Calculer Δ :

$$\Delta = b^2 - 4 \times a \times c$$

$$\Delta = 9^2 - 4 \times (-6) \times (-4)$$

$$\Delta = 81 - 96$$

$$\Delta = -15 < 0$$

Si $\Delta > 0$: 2 solutions

$$x_1 = \frac{-b - \sqrt{\Delta}}{2 \times a}$$

$$x_1 = \frac{-1 - \sqrt{9}}{2 \times 1}$$

$$x_1 = -2$$

$$x_2 = \frac{-b + \sqrt{\Delta}}{2 \times a}$$

$$x_2 = \frac{-1 + \sqrt{9}}{2 \times 1}$$

$$x_2 = 1$$

$$S = \{-2; 1\}$$

Si $\Delta = 0$: 1 solution

$$x_0 = \frac{-b}{2 \times a}$$

$$x_0 = \frac{-(-4)}{2 \times 1}$$

$$x_0 = 2$$

$$S = \{2\}$$

Si $\Delta < 0$

Pas de solution

$$S = \emptyset$$