$$2x^2 + bx + c$$

fonction quadratique

$$\Delta = b^2 - 4ac$$

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

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

Exemples:

$$3x^2 - 2x + 1$$

$$a = 3 \quad b = (-2) \quad c = 1$$

$$2 - x + x^2 = 1x^2 - 1x + 2 \qquad a = 1 \quad b = -1 \quad c = 2$$

$$x - 3x^2 - 2 = -3x^2 + 1x - 2 \qquad a = -3 \quad b = 1 \quad c = -2$$

Question

$$3x^2 - 2x + 1 = 0 \qquad a = 3 \quad b = -2 \quad c = 1$$

$$\Delta = b^2 - 4ac = (-2)^2 - 4 \cdot 3 \cdot 1$$

Delta

$$= 4 - 12 = -8$$

négatif

Pas de zéros

$$S = \emptyset$$

STOP.

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

$$a = 1 \quad b = -1 \quad c = 2$$

$$\triangle = (-1)^2 - 4 \cdot 1 \cdot 2 = 1 - 8 = -7$$

Pas de solution

$$3x^2 + x - 2 = 0$$

$$a = 3 \quad b = 1 \quad c = -2$$

$$\triangle = b^2 - 4ac = 1^2 - 4 \cdot 3 \cdot (-2) = 1 + 24 = 25$$

$$x_1 = \frac{-b + \sqrt{\triangle}}{2a} = \frac{-1 + \sqrt{25}}{2 \cdot 3} = \frac{-1 + 5}{6} = \frac{4}{6}$$
$$= \frac{2}{3}$$

$$x_2 = \frac{-b - \sqrt{\triangle}}{2a} = \frac{-1 - \sqrt{25}}{6} = \frac{-6}{6} = -1$$

$$3 \cdot (-1)^2 - 1 - 2 = 3 - 1 - 2 = 0 \checkmark$$