

Détermination du domaine de validité.

$$x^2 + 1 = 0$$

$$x + 3 = 0$$

$$x^2 = -1$$

$$x = -3$$

$$x = \sqrt{-1}$$

$$(\sqrt{-1}, -3)$$

$$(x^2 + x + 1)(x + 3) = (x^2 + 1)(x + 5)$$

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

$$x^3 + 4x^2 + 4x + 3 = x^3 + 5x^2 + x + 5$$

$$-x^3 \quad \text{b) } x^3 - x^3 + 4x^2 + 4x + 3 = 5x^2 + x + 5$$

$$-5x^2 \quad \text{b) } 4x^2 - 5x^2 + 4x + 3 = x + 5$$

$$-x \quad \text{b) } -1x^2 + 4x - x + 3 = 5$$

$$-5 \quad \text{b) } -1x^2 + 3x + 3 - 5 = 0$$

$$-1x^2 + 3x - 2 = 0$$

$$a = -1$$

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

$$b = 3$$

$$\Delta = 3^2 - 4 \times (-1) \times (-2)$$

$$c = -2$$

$$\Delta = 3^2 - 8$$

$$\Delta = 9 - 8 = 1$$

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

$$x_1 = \frac{-3 - \sqrt{1}}{2 \times -1} = \frac{-4}{-2} = 2$$

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

$$x_2 = \frac{-3 + \sqrt{1}}{2 \times -1} = \frac{-4}{-2} = 2$$

donc les solutions sont

2