

$$P(x) : Eq(x^5 + 5x^4 + 10x^3 + 10x^2 + 5x + 3, 0)$$

$$Racine_1 = -1 + \sqrt[5]{-2}$$

$$Racine_2 = -1 + \sqrt[5]{-2} \left(-\frac{1}{4} + \frac{\sqrt{5}}{4} - i\sqrt{\frac{\sqrt{5}}{8} + \frac{5}{8}} \right)$$

$$Racine_3 = -1 + \sqrt[5]{-2} \left(-\frac{1}{4} + \frac{\sqrt{5}}{4} + i\sqrt{\frac{\sqrt{5}}{8} + \frac{5}{8}} \right)$$

$$Racine_4 = -1 + \sqrt[5]{-2} \left(-\frac{\sqrt{5}}{4} - \frac{1}{4} - i\sqrt{\frac{5}{8} - \frac{\sqrt{5}}{8}} \right)$$

$$Racine_5 = \sqrt[5]{-2} \left(-\frac{\sqrt{5}}{4} - \frac{1}{4} + i\sqrt{\frac{5}{8} - \frac{\sqrt{5}}{8}} \right) - 1$$

Solutions simplifiées

$$Racine_1 = -1 + \sqrt[5]{-2}$$

$$Racine_2 = -1 - \frac{\sqrt[5]{-2}(-\sqrt{5} + 1 + \sqrt{2}i\sqrt{\sqrt{5} + 5})}{4}$$

$$Racine_3 = -1 + \frac{\sqrt[5]{-2}(-1 + \sqrt{5} + \sqrt{2}i\sqrt{\sqrt{5} + 5})}{4}$$

$$Racine_4 = -1 - \frac{\sqrt[5]{-2} \cdot (1 + \sqrt{5} + \sqrt{2}i\sqrt{5 - \sqrt{5}})}{4}$$

$$Racine_5 = \frac{\sqrt[5]{-2}(-\sqrt{5} - 1 + \sqrt{2}i\sqrt{-5 + \sqrt{5}})}{4} - 1$$