

$$8x^4 - 8x^2 + 1 = 0 \quad (\text{Je suppose})$$

On pose $y = x^2$

on obtient $8y^2 - 8y + 1 = 0$

$$\Delta = b^2 - 4ac = 64 - 4 + 8 = 32$$

$$\text{Donc } y = \frac{+8 + \sqrt{32}}{(2 \times 8)} = \frac{8 + \sqrt{32}}{16} = \frac{8 + 4\sqrt{2}}{16} = \frac{2 + \sqrt{2}}{4}$$

$$\text{ou } y = \frac{2 - \sqrt{2}}{4} > 0$$

$$x^2 = y \Leftrightarrow x = \sqrt{y} \quad \text{ou } x = -\sqrt{y}$$

Donc les solutions de cette équation sont :

$$x_1 = \sqrt{\frac{2 + \sqrt{2}}{4}} = \frac{\sqrt{2 + \sqrt{2}}}{2} ; \quad x_2 = -\frac{\sqrt{2 + \sqrt{2}}}{2}$$

$$x_3 = \frac{\sqrt{2 - \sqrt{2}}}{2} ; \quad x_4 = -\frac{\sqrt{2 - \sqrt{2}}}{2}$$