

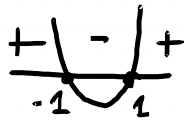
$$2) f(x) = x^3 - 3x + 1 \quad I = \mathbb{R}$$

$$f'(x) = 3x^2 - 3$$

Signe de f' : $3x^2 - 3$

$$a = 3 > 0 \quad \cup \quad b = 0 \quad c = -3$$

$$\Delta = b^2 - 4ac = 0^2 - 4 \times 3 \times (-3) = 36 > 0$$



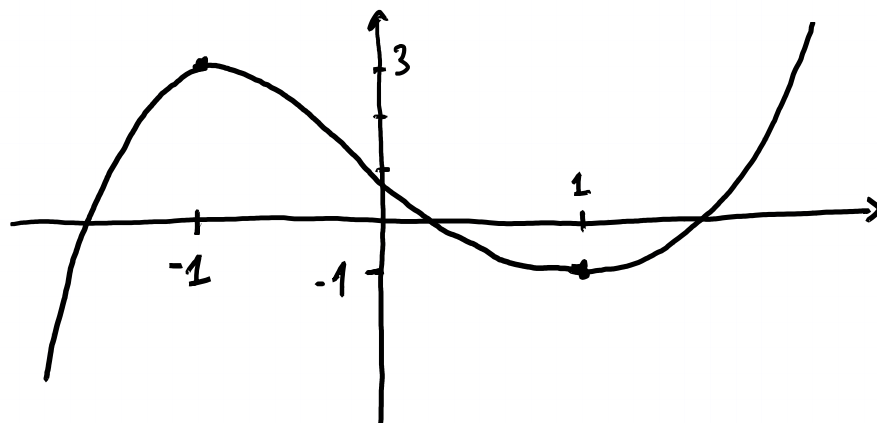
$$x_1 = \frac{0-6}{6} = -1 \quad x_2 = \frac{0+6}{6} = 1$$

Tableau
de variations :

| x | $-\infty$ | -1 | 1 | $+\infty$ |
|------|---|------|-----|-----------|
| f' | + | 0 | 0 | + |
| f | <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">↗ $f(-1)$</div> <div style="text-align: center;">↘ $f(1)$</div> <div style="text-align: center;">↗</div> </div> | | | |

$$f(-1) = (-1)^3 - 3 \times (-1) + 1 = -1 + 3 + 1 = 3$$

$$f(1) = 1^3 - 3 \times 1 + 1 = 1 - 3 + 1 = -1$$



3 est un maximum atteint en $x = -1$

-1 est un minimum atteint en $x = 1$