

Ex 2.10.8

$$y = \underbrace{x^3 - 3x^2}_{f(x)} \quad \text{tangente en } I$$

$$f'(x) = 3x^2 - 6x$$

$$f''(x) = 6x - 6 = 6(x-1) \quad \text{zéro: } 1 \Rightarrow I(1, \dots)$$

$$f(1) = 1 - 3 = -2 \quad \Rightarrow I(1, -2)$$

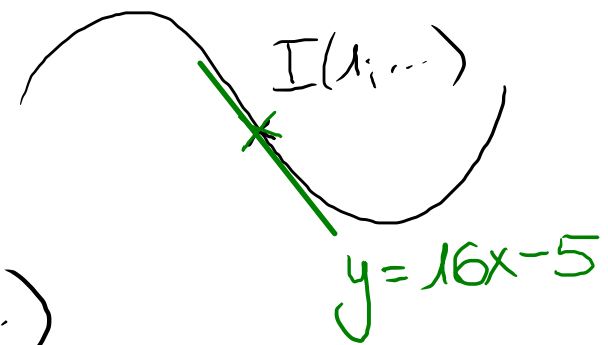
$$f'(1) = 3 - 6 = -3 \quad \begin{array}{l} \text{formule} \\ \Rightarrow \end{array} \quad y = -3(x-1) + (-2) \Leftrightarrow \underline{y = -3x + 1}$$

Ex 2.10.9

$$f(x) = x^4 + ax^3 + bx^2 + c$$

$$y = 16x - 5$$

$I(1, \dots)$



$$f'(x) = 4x^3 + 3ax^2 + 2bx$$

$$\Rightarrow f'(1) = 16$$

$$\Leftrightarrow 4 + 3a + 2b = 16$$

$$\Leftrightarrow 3a + 2b = 12 \quad (1)$$

$$f''(x) = 12x^2 + 6ax + 2b$$

$$\Rightarrow f''(1) = 0$$

$$\Leftrightarrow 12 + 6a + 2b = 0$$

$$6a + 2b = -12 \quad (2)$$

$$I \in t : y = 16 \cdot 1 - 5 = 11 \Rightarrow I(1, 11)$$

$$I \in y = f(x) \Rightarrow 11 = 1 + a + b + c \Leftrightarrow a + b + c = 10 \quad (3)$$