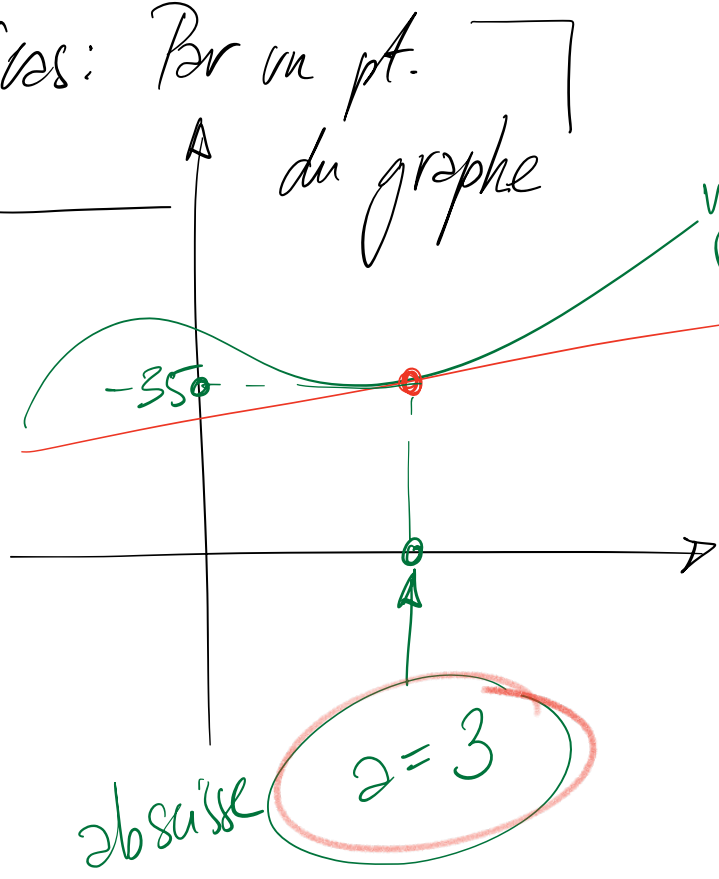


per les: Par un pt. du graphe



$$y = f(x) = 1 - 4x^2$$

$$y = mx + h$$

données

$$\begin{aligned} 2 &= 3 \\ f(x) &= 1 - 4x^2 \end{aligned}$$

$$f(2) = f(3) \rightarrow (3; f(3)) = (3; 1 - 4 \cdot 9) = (3; -35)$$

$$f'(x) = (1 - 4x^2)' = -4 \cdot 2x = -8x$$

$$m = f'(2)$$

$$y = mx + h$$

$$f'(3) = -8 \cdot 3 = -24 = m$$

pente

$$\Rightarrow y = -24x + h$$

(3; -35)

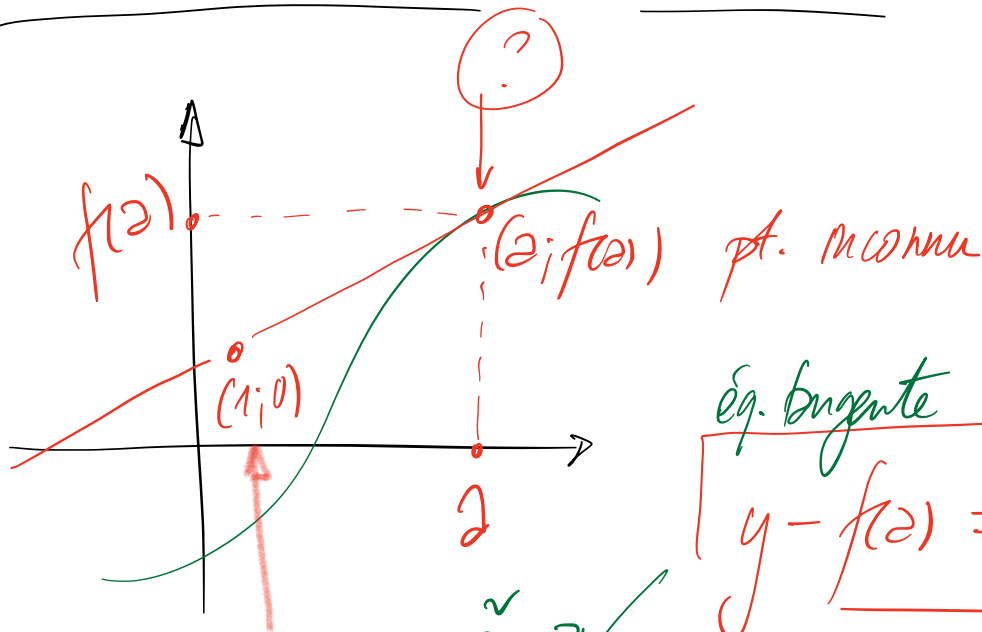
x      y

$$-35 = -24 \cdot 3 + h$$

$$72 - 35 = h \quad | \quad h = 37$$

L'éq. de  $t$  est donc :  $y = -24x + 37$

2<sup>ème</sup> cas : Par un pt. hors du graphe



$f(x) = x^2$   
DONNÉ

éq. tangente

$$y - f(a) = f'(a)(x - a)$$

DONNÉ

$x=1 \quad f(1)=2^2$   
 $y=0 \quad f'(1)=2a$

$(1, 0)$

formulいた

$f(x) = x^2$

$f'(x) = 2x$

$f(a) = a^2$

$f'(a) = 2a$

$$0 - a^2 = 2a(1 - a)$$

$$\Leftrightarrow -a^2 = 2a - 2a^2$$

$$\Leftrightarrow a^2 - 2a = 0$$

$$\Leftrightarrow 2a^2 - a^2 - 2a = 0$$

$$\Leftrightarrow 1x^2 - 2x + 0 = 0$$

$$\Leftrightarrow a = 2 \text{ ou } a = 0$$

$$\Delta = 4 - 4 \cdot 1 \cdot 0 = 4$$

$$x = \frac{2 \pm 2}{2} = \begin{matrix} 2 \\ 0 \end{matrix}$$

$$y - f(a) = f'(a) \cdot (x - a)$$

$$f(a) = a^2$$

$$f'(a) = 2a$$

$$\boxed{a=2}$$

$$t_1: y - 2^2 = 2 \cdot 2 \cdot (x - 2)$$

$$y - 4 = 4x - 8 \Leftrightarrow \boxed{y = 4x - 4}$$

$$a=0$$

$$t_2: y - 0^2 = 2 \cdot 0 \cdot (x - 0)$$

$$\boxed{y=0}$$

$$y - f(a) = f'(a)(x - a)$$

$$y = f'(a) \cdot x \left[ -f'(a) \cdot a + f(a) \right]$$

$$y = f'(a) \cdot x + h \quad \text{avec} \quad h = f(a) - f'(a) \cdot a$$