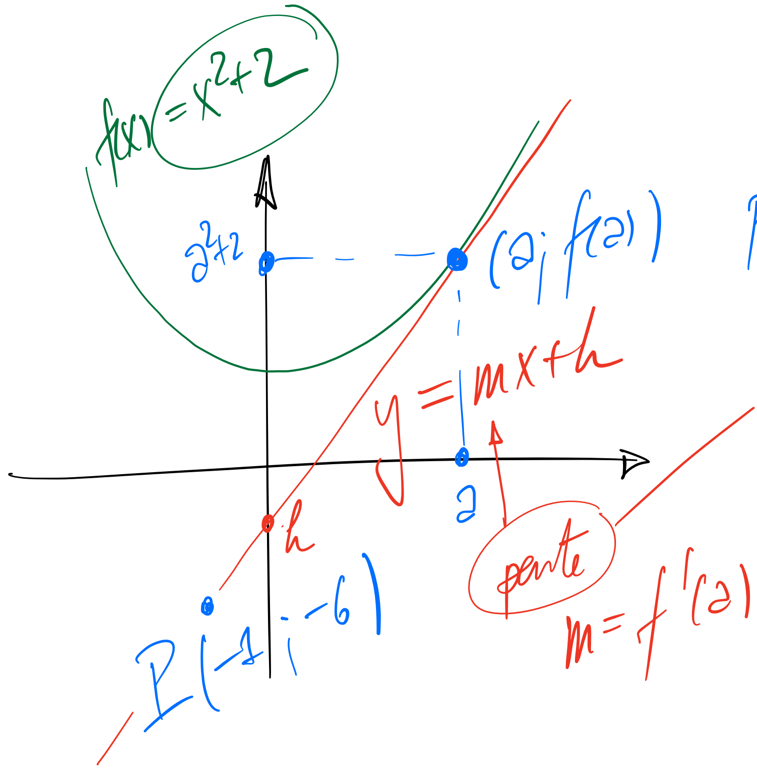



point de contact : $(a;\ a^2+2)$

dérivée $f'(x)$ ← pente en $(x; f(x))$ tangente

chercher $a$ ?

$$f'(x) = 2x = (x^2+2)' = 2x+0$$

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

$t:\ y = 2a\cdot x + h$ passe par $(-1; -6)$

$$-6 = 2a\cdot(-1) + h$$

$$-6 = -2a + h$$

$$-6+2a = h \ / \ h = 2a-6$$

$\Rightarrow t:\ y = 2ax + 2a - 6$

passe ôssi par $(a; f(a))$

$$(\underbrace{a}_{x};\ \underbrace{a^2+2}_{y})$$

$$\Rightarrow \boxed{\underbrace{a^2+2}_{y} = 2a\cdot\underbrace{a}_{x} + 2a - 6}$$

$$\Leftrightarrow a^2+2 = 2a^2+2a-6$$

$$\Leftrightarrow 0 = 2a^2-a^2+2a-6-2$$

$$\Leftrightarrow 0 = a^2+2a-8$$

$$\Leftrightarrow a^2+2a-8=0$$

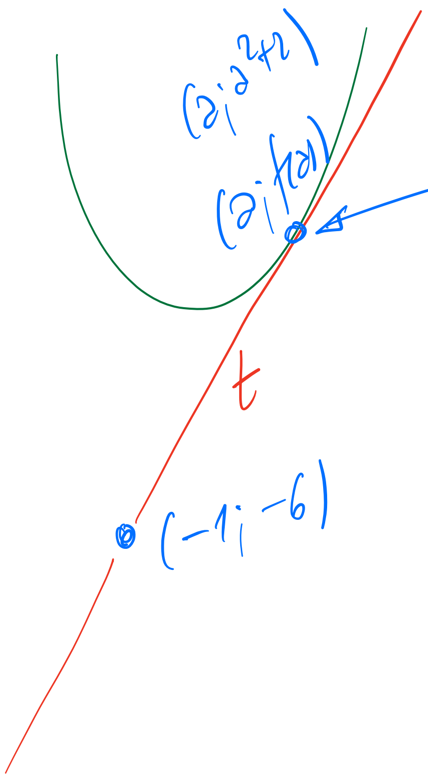
$$\Delta = 4-4\cdot1\cdot(-8) = 36$$

$$a = \frac{-2 \pm 6}{2} \begin{cases} 2 & a_1 = 2 \\ -4 & a_2 = -4 \end{cases}$$

$$y = 2ax + 2a - 6$$

$$t_1 : y = 2 \cdot 2x + 2 \cdot 2 - 6 \iff \boxed{t_1 : y = 4x - 2}$$

$$t_2 : y = 2 \cdot (-4) \cdot x + 2 \cdot (-4) - 6 \iff \boxed{t_2 : y = -8x - 14}$$




point de tangence

$t$ passe par
- $(-1; -6)$
- le pt. de tangence alias $(a; a^2+2)$

$$\left[\left(f(x)\right)^n\right]' = n \cdot \left(f(x)\right)^{n-1} \cdot f'(x)$$

$$\left(x^3-3x^2+1\right)^6 = 6 \cdot \left(x^3-3x^2+1\right)^5 \cdot \left(x^3-3x^2+1\right)' =$$

$$\left(T^6\right)' = 6T^5 \qquad 6\left(x^3-3x^2+1\right)^5 \cdot \left(3x^2-6x\right)$$