Exercice 5.4.

$$f(x) = -x^2 + x + 2$$

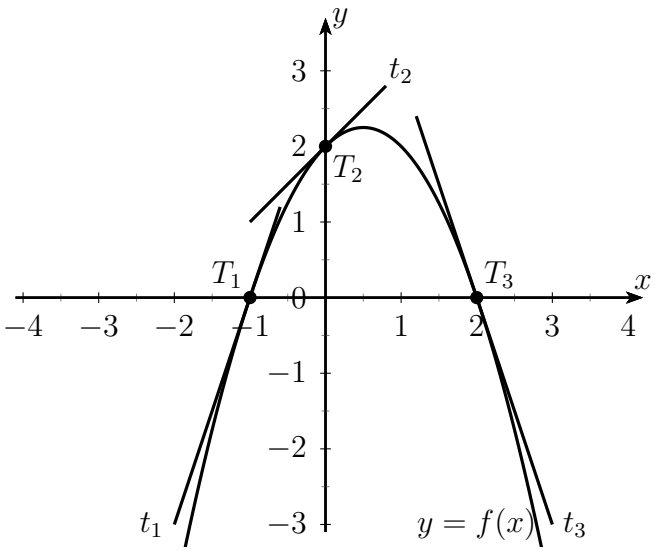
a) dérivée : $f'(x) = -2x + 1$

b) • $f(x) = 0 \iff -x^2 + x + 2 = 0 \iff -(x^2 - x - 2) = 0 \iff$

$\iff -(x+1)(x-2) = 0 \Rightarrow x_1 = -1$ ou $x_2 = 2$

• pentes : $m_1 = f'(-1) = \boxed{3}$ ou $m_2 = f'(0) = \boxed{1}$ ou $m_3 = f'(2) = \boxed{-3}$

c)



Exercice 5.5.

• $f(x) = x^2$

• dérivée : $f'(x) = 2x$

• pente : $m_a = f'(a) = -3 \iff 2a = -3 \Rightarrow a = -\dfrac{3}{2}$

• point de tangence : $a = -\dfrac{3}{2} \Rightarrow b = f\left(-\dfrac{3}{2}\right) = \dfrac{9}{4} \Rightarrow \boxed{T\left(-\dfrac{3}{2}\,;\dfrac{9}{4}\right)}$