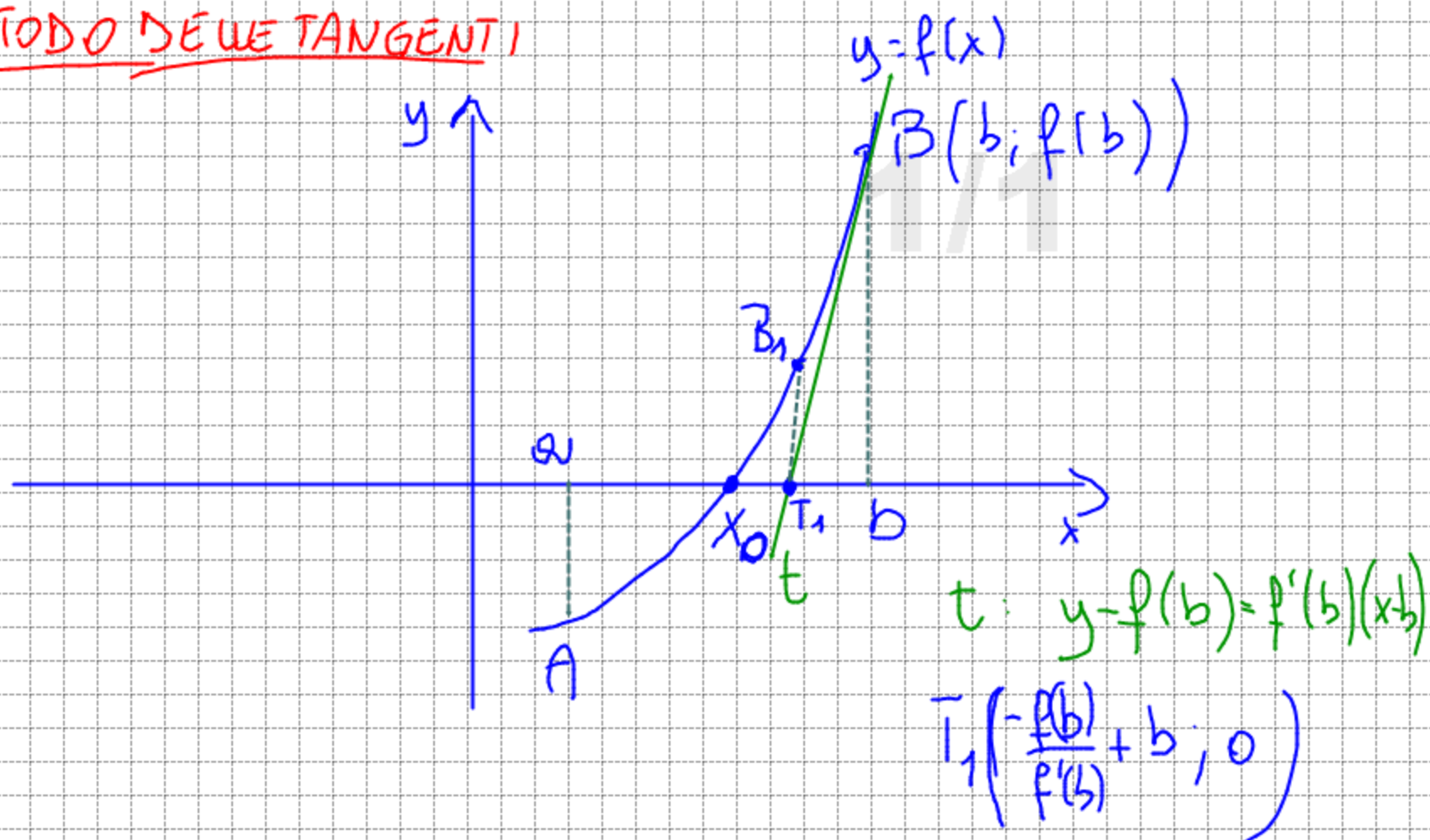


METODO DELLE TANGENTI



ESEMPIO

Trovare le radici di $x^2 + \ln x - 4 = 0$ $\ln x = 4 - x^2$

$$f(x) = \ln x \quad g(x) = 4 - x^2 \quad [1, 2]$$

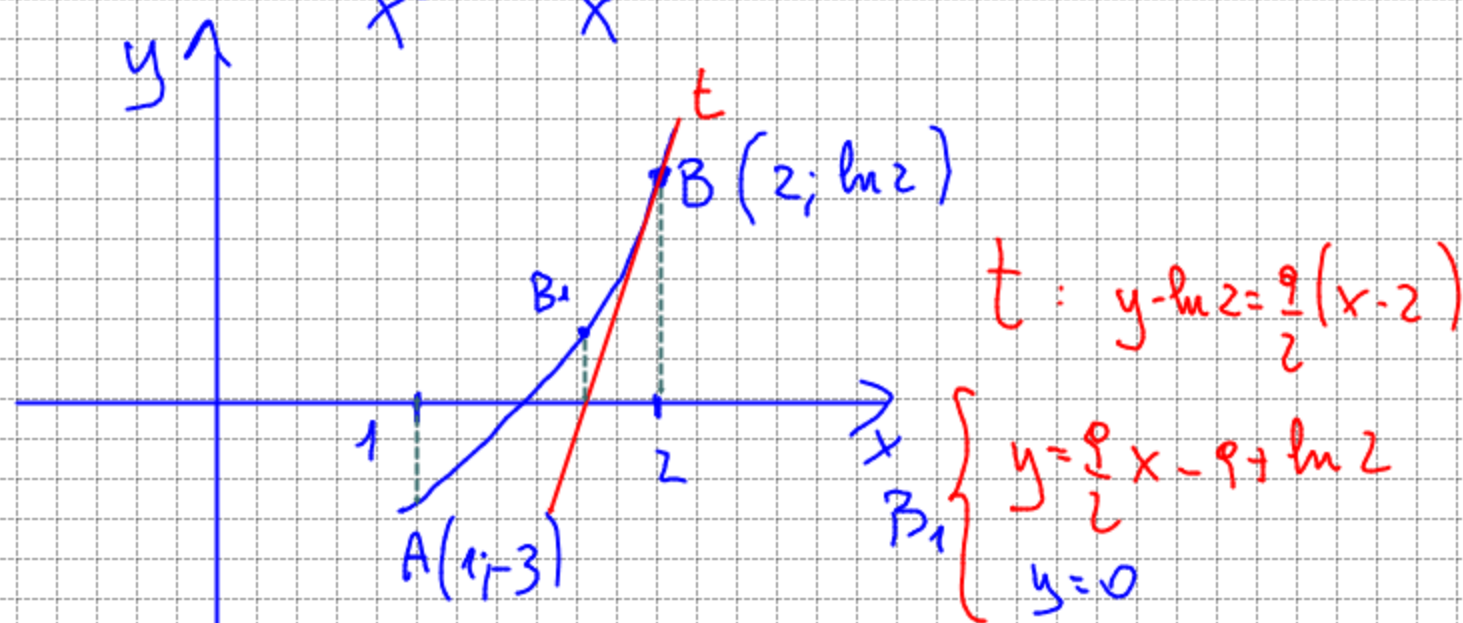
$$h(x) = x^2 + \ln x - 4$$

$$h(1) = -3 < 0$$

$$h(2) = \ln 2 > 0$$

$$h'(x) = 2x + \frac{1}{x} = \frac{2x^2 + 1}{x} > 0 \quad \forall x \in [1, 2]$$

$$h''(x) = 2 - \frac{1}{x^2} = \frac{2x^2 - 1}{x^2} > 0 \quad \forall x \in [1, 2]$$



$$x = \frac{2}{9}(9 - \ln 2) = 2 - \frac{2}{9}\ln 2 = 1,8459673$$