



Def: The tangent line to the curve $y=f(x)$ at the point $P=(a, f(a))$ is the line through P with slope

$$m = \lim_{h \rightarrow 0} \frac{f(a+h) - f(a)}{h}$$

We can also compute slope as

$$m = \lim_{x \rightarrow a} \frac{f(x) - f(a)}{x - a}$$

Ex: Find an equation for the tangent line at the specified point.

① $y = \underbrace{4x - 3x^2}_{f(x)}$ at $(2, -4)$.

$m =$?

