

$$f := x \rightarrow x^2 + 2$$

$$f := x \mapsto x^2 + 2 \quad (1)$$

$$fp := x \rightarrow 2 \cdot x$$

$$fp := x \mapsto 2x \quad (2)$$

Gives tangent slope. Now build the line:

$$tanline := x \rightarrow fp(3) \cdot (x - 3) + f(3)$$

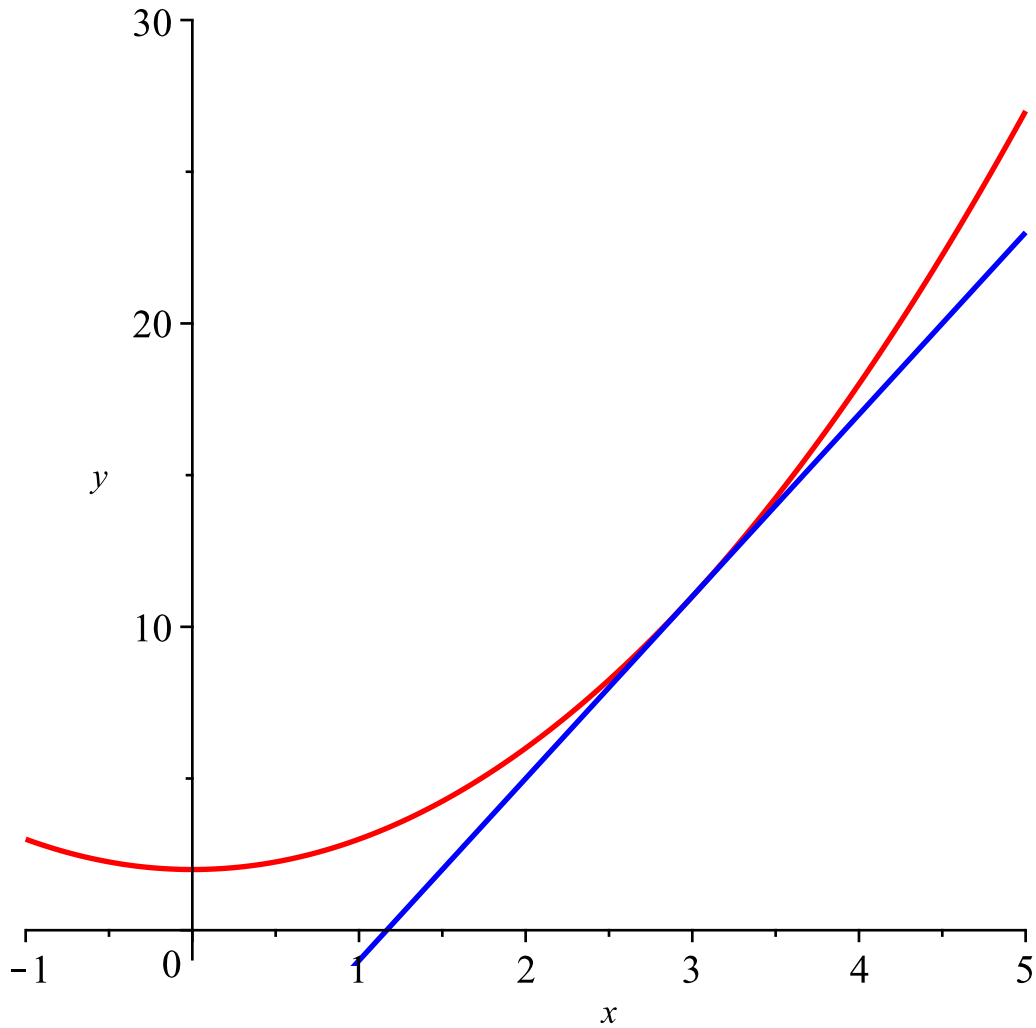
$$tanline := x \mapsto fp(3) (x - 3) + f(3) \quad (3)$$

$$tanline(3)$$

$$11 \quad (4)$$

with(plots) :

$$plot([f(x), tanline(x)], x = -1 .. 5, y = -1 .. 30, color = [red, blue], thickness = [2, 2])$$



$$tanline(x)$$

$$2x(3)(x - 3) + 11$$

(5)

$$plot([f(x), fp(x)], x = -5 .. 5, y = -10 .. 30, color = [red, blue], thickness = [2, 2])$$

