$f(x) = 4x^2$

Desarrollo

$$\begin{aligned} f(x+h) - f(x) &= 4(x+h)^2 - 4x^2 \\ &= 4(x^2 + 2xh + h^2) - 4x^2 \\ &= 4x^2 + 8xh + 4h^2 \end{aligned}$$

$$\begin{aligned} \frac{f(x+h) - f(x)}{h} &= \frac{8xh + 4h^2}{h} \\ &= 8x + 4h \end{aligned}$$

$$\begin{aligned} f'(x) &= \lim_{x \to 0} \frac{f(x+h) - f(x)}{h} \\ &= \lim_{x \to 0} 8x + 4h \\ &= 8x \end{aligned}$$

https://docs.google.com/document/d/1cZlemf_UeF40alCaCDfFS4ZCgNwnuE8qGgjsOWBdOhg/edit