

**Ejemplo 1.** *Calcular la derivada de  $f(x) = x^3$ :*

$$\begin{aligned} f'(x) &= \lim_{h \rightarrow 0} \frac{(x+h)^3 - x^3}{h} \\ &= \lim_{h \rightarrow 0} \frac{3x^2h + 3xh^2 + h^3}{h} \\ &= 3x^2 \end{aligned}$$