

$$f = 3x^2$$

$$\frac{df}{dx} = 6x$$

$$\begin{aligned} g &= (x+8)^2 \\ &= (x+8)(x+8) \\ &= (x \cdot x) + (8 \cdot x) + (8 \cdot x) + (8 \cdot 8) \\ &= x^2 + 8x + 8x + 64 \\ &= x^2 + 16x + 64 \\ &= x^2 + 16x. \end{aligned}$$

$$\begin{aligned} \frac{dh}{dx} &= a \cdot 3x^2 + \frac{8x^7}{2} \\ &= 3(a)(x^2) + 4(7x^6) \\ &= 3x^2 + 28x^6 \end{aligned}$$

$$\begin{aligned} \frac{dh}{da} &= \cdot ax^3 + \frac{1}{2}(x^8) \\ &= x^3 \cdot a + \frac{x^8}{2} \\ &= x^3(1) + 0 \\ &= x^3 \end{aligned}$$