

Exercise 1 Let f be a function such that

$$f(0) = -1, \quad f(4) = 3, \quad f'(0) = 5, \quad \text{and} \quad f'(4) = -6.$$

Find the following values or input CBD if the value cannot be determined.

$$\begin{aligned} \left[\frac{d}{dx} (5f(x)) \right]_{x=4} &= \boxed{-30} \\ \left[\frac{d}{dx} (f(x) - e^x + \sin 4) \right]_{x=0} &= \boxed{4} \\ \left[\frac{d}{dx} (2f(x) + e + \sin x) \right]_{x=0} &= \boxed{11} \\ \left[\frac{d}{dx} (\pi f(x) + \sqrt{7}\sqrt{x}) \right]_{x=4} &= \boxed{-6\pi + \frac{\sqrt{7}}{4}} \end{aligned}$$
