

S. 70 (1 a) - f)

$$\begin{aligned} \text{a) } f(x) &= 3x^2 + 2x + 1 \\ f'(x) &= 6x + 2 \end{aligned}$$

$$\begin{aligned} \text{b) } f(x) &= x^4 - 2x^3 + 3x^2 + 5x - 7 \\ f'(x) &= 4x^3 - 6x^2 + 6x + 5 \end{aligned}$$

$$\begin{aligned} \text{c) } f(x) &= \frac{1}{6}(2x^3 + x^2 - 4x + 5) \\ f'(x) &= \frac{1}{6}(6x^2 + 2x - 4) \end{aligned}$$

$$\begin{aligned} \text{d) } f(x) &= \frac{2}{3}x^6 - \frac{3}{4}x^4 + \frac{1}{2}x^2 \\ f'(x) &= 4x^5 - 3x^3 + x \end{aligned}$$

$$\begin{aligned} \text{e) } f(x) &= \frac{1}{2}(2x-1)^2 + 1 = \frac{1}{2}(4x^2 - 4x + 1) + 1 = 2x^2 - 2x + 1,5 \\ f'(x) &= 4x - 2 \end{aligned}$$

$$\begin{aligned} \text{f) } f(x) &= (3x+1)(2x-1) = 6x^2 - 3x + 2x - 1 = 6x^2 - x - 1 \\ f'(x) &= 12x - 1 \end{aligned}$$