

**OR**

$$y = \frac{2}{x^{2/3}}$$

$$y' = \frac{0(x^{2/3}) - 2 \frac{2}{3} x^{2/3-1}}{(x^{2/3})^2}$$

$$= \frac{-\frac{4}{3} x^{-1/3}}{x^{4/3}}$$

$$= -\frac{4}{3} \frac{x^{-1/3}}{x^{4/3}} \frac{x^{1/3}}{x^{1/3}}$$

$$= -\frac{4}{3} \frac{1}{x^{5/3}} \Bigg|$$

$$= -\frac{4}{3} \frac{1}{\sqrt[3]{x^5}} = -\frac{4}{3} \frac{1}{\sqrt[3]{x^3 x^2}} = -\frac{4}{3} \frac{1}{x \sqrt[3]{x^2}} \Bigg|$$

$$y = \frac{2}{x^{2/3}} = 2x^{-2/3}$$

$$y' = 2 \left( -\frac{2}{3} \right) x^{-5/3}$$

$$= -\frac{4}{3} \frac{1}{x^{5/3}} \Bigg|$$

**OR**

$$f(x) = (x^5 - 3x) \left( \frac{1}{x^2} \right)$$

$$u = x^5 - 3x \quad v = \frac{1}{x^2} = x^{-2}$$

$$u' = 5x^4 - 3 \quad v' = -2x^{-3}$$

$$f'(x) = (5x^4 - 3) \left( \frac{1}{x^2} \right) + (x^5 - 3x) \left( \frac{-2}{x^3} \right)$$

$$= \frac{5x^4 - 3}{x^2} - 2x \left( \frac{x^4 - 3}{x^3} \right)$$

$$= \frac{5x^4 - 3}{x^2} - (2x^4 - 6) \left( \frac{1}{x^2} \right)$$

$$= \frac{5x^4 - 3}{x^2} - \frac{2x^4 - 6}{x^2}$$

$$= \frac{5x^4 - 3 - 2x^4 + 6}{x^2}$$

$$= \frac{3x^4 + 3}{x^2} \Bigg|$$

$$f(x) = \frac{1}{x^2} \cdot x^5 - 3x \cdot \frac{1}{x^2} = x^3 - \frac{3}{x}$$

$$f'(x) = 3x^2 + \frac{3}{x^2} \Bigg| \quad \left( \frac{1}{x} \right) = -\frac{1}{x^2}$$

$$= 3x^2 \frac{x^2}{x^2} + \frac{3}{x^2}$$

$$= \frac{3x^4 + 3}{x^2} \Bigg|$$