

Answer to Question #87287 – Math – Calculus

Q(7):

$$f(x) = ax^3 + bx$$

On differentiating w.r.t to x ,

$$f'(x) = 3ax^{3-1} + b(1)$$

$$= 3ax^2 + b.$$

Option(d) is correct.

Q(8):

$$y = \frac{2x^5 + x^2 - 5}{x^2}$$

$$y = \frac{2x^5}{x^2} + \frac{x^2}{x^2} - \frac{5}{x^2}$$

$$y = 2x^3 + 1 - 5x^{-2}$$

On differentiating w.r.t to x ,

$$\frac{dy}{dx} = 2(3x^{3-1}) + 0 - 5(-2)x^{-2-1}$$

$$\frac{dy}{dx} = 6x^2 + 10x^{-3}.$$

Option (d) is correct.