

7 次関数を微分せよ。

(1) $y = 5x^3$

$$y' = 15x^2$$

(2) $y = x^8 - 3x^4$

$$y' = 8x^7 - 12x^3$$

(3) $y = 4x^4 - 2x^3 + 3x^2 - 7x + 5$

$$y' = 16x^3 - 6x^2 + 6x - 7$$

(4) $y = \frac{2}{5}x^5 + \frac{1}{2}x^4 - \frac{2}{3}x^3 - x^2 - \frac{1}{4}$

$$y' = 2 - \frac{6}{x^3}$$

(8) $y = 2x - 1 + \frac{3}{x^2}$

(9) $y = \frac{x-1}{x^2+2x-5}$

(5) $y = -\frac{2}{x^4}$

$$y' = 2x^4 + 2x^3 - 2x^2 - 2x$$

$$y' = \frac{8}{x^5}$$

(6) $y = \frac{1}{6x^6}$

$$y' = -\frac{1}{x^7}$$

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