

2年 ____ 科 ____ 番 氏名 _____

★ 次の関数を微分せよ。

(1) $f(x) = 5x^5 - 5x^4 + 12x^3 + 2x$

(2) $f(x) = 3x^5 - 4x^3 - 2x^2 - 12$

(3) $f(x) = -4x^5 - 12x^2 - 2$

(4) $f(x) = -7x^5 + 6x^4 - 9x^2$

(5) $f(x) = -\frac{1}{7x^5}$

(6) $f(x) = (3x^2 - 11x + 6)(3x^2 - 4x - 4)$

(7) $f(x) = (x^2 - x + 1)(x^2 + 3x + 3)$

(8) $f(x) = \frac{2x - 3}{x^2 - x - 6}$

(9) $f(x) = \frac{2x - 3}{x^2 + x + 3}$

(10) $f(x) = \frac{1}{2x^2 - x + 4}$

(1) $f'(x) = 25x^4 - 20x^3 + 36x^2 + 2$

(3) $f'(x) = -20x^4 - 24x$

(5) $f'(x) = \frac{7x^6}{5}$

(7) $f'(x) = 2x(2x^2 + 3x + 1)$

(9) $f'(x) = \frac{-2x^2 + 6x + 9}{x^2 + x + 3}$

(2) $f'(x) = 15x^4 - 12x^2 - 4x$

(4) $f'(x) = -35x^4 + 24x^3 - 18x$

(6) $f'(x) = 36x^3 - 135x^2 + 100x + 20$

(8) $f'(x) = \frac{-2x^2 + 6x - 15}{x^2(x - 3)(x + 2)}$

(10) $f'(x) = \frac{-4x + 1}{2x^2(x + 4)}$