

1 ●次の関数を微分せよ。

(1)  $y = x^5$

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

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

(4)  $y = 4x^3 + 5x^2 + 7x + 1$

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

(6)  $y = -3x^{-3}$

(7)  $y = \frac{1}{x^4}$

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

2 ●次の関数を微分せよ。

(1)  $y = (x+2)(3x+4)$

(2)  $y = (2x+3)(x^2-3)$

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

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

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

(6)  $y = (3x^2-1)(2x^2+x)$

3 ●次の関数を微分せよ。

(1)  $y = (3x-1)^2$

(2)  $y = -(2x^2+x)^3$

(3)  $y = (x+1)(2x+1)^2$

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

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

(6)  $y = \frac{1}{(x^3+x)^4}$

4 ●次の関数を微分せよ。

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

(2)  $y = \sqrt{x^3}$

(3)  $y = \frac{1}{\sqrt[3]{x}}$

(4)  $y = x\sqrt[3]{x}$

(5)  $y = 4x^{\frac{5}{4}} - 6x^{\frac{5}{3}}$

(6)  $y = 2x\sqrt{x} + \frac{1}{x\sqrt{x}}$

5 ●次の関数を微分せよ。

(1)  $y = \sqrt{2x+3}$

(2)  $y = \sqrt{x^2-2x}$

(3)  $y = \frac{1}{\sqrt{1-4x}}$

(4)  $y = \sqrt[3]{x^2} + \sqrt[4]{4x+2}$

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

(6)  $y = \frac{x}{\sqrt{x^2+1}}$

6 ●次の関数を微分せよ。

(1)  $y = (2x+3)^2$

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

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

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

(5)  $y = (x^2+2x+3)^3$

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

7 ●次の関数を微分せよ。

(1)  $y = x^{\frac{1}{4}}$

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

(3)  $y = \sqrt[3]{x}$

(4)  $y = \frac{1}{\sqrt[3]{x}}$

(5)  $y = \sqrt[3]{x^2}$

(6)  $y = x\sqrt[3]{x}$

8 ●次の関数を微分せよ。

(1)  $y = \sqrt{3x-2}$

(2)  $y = \sqrt{x^2+3x}$

(3)  $y = \frac{1}{\sqrt{4x-3}}$

(4)  $y = \frac{1}{\sqrt{x^2+2x}}$