

1 次の関数を微分せよ.

(1)  $y = \sin(3x + 2)$

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

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

(4)  $y = x \log 3x$

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

(6)  $y = \log |\tan x|$

(7)  $y = x^x \quad (x > 0)$

(8)  $y = \frac{e^x - e^{-x}}{e^x + e^{-x}}$

2 次の関数を微分せよ.ただし,(8)の  $a$  は定数とする.

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

(2)  $y = \frac{\sin x}{1 + \cos x}$

(3)  $y = \tan^2 3x$

(4)  $y = \log \left( \frac{1}{\cos x} \right)$

(5)  $y = \log_{10}(x^2 + 1)$

(6)  $y = e^{2x} \cos 3x$

(7)  $y = (\sqrt{x})^x \quad (x > 0)$

(8)  $y = \log(x + \sqrt{x^2 + a^2})$