1 次の極限値を求めよ.

(1)
$$\lim_{x \to -3} \frac{x^2 + 4x + 3}{x + 3}$$

(2) $\lim_{x \to 2} \frac{\sqrt{x+2} - 2}{x-2}$

(3) $\lim_{x \to 0} \frac{1}{x} \left(\frac{1}{\sqrt{3}} - \frac{1}{x + \sqrt{3}} \right)$

 $|\mathbf{2}|$ 導関数の定義にしたがって、関数 $y=2\sqrt{x}$ を微分せよ.

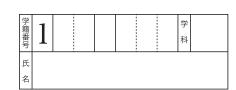
3 次の関数を微分せよ.

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

$$(2) \ y = (3 - 2x)^6$$

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

$$(4) \ y = \tan(3x+4)$$



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

$$(9) \ \ y = \cos^2\left(\sqrt{\frac{2x-1}{3x+1}}\right)$$

(6)
$$y = \frac{x+7}{3-x}$$

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

$$(8) \ y = x^2 \sin x$$

