

4.3

次の点と直線の距離を求めよ。

(1)  $(0, 0), 4x + 3y - 12 = 0$

(2)  $(-3, 2), 2x - 3y + 6 = 0$

(3)  $(-1, -6), -3x - y = 8$

(4)  $(3, 1), y = \frac{1}{2}x - \frac{3}{2}$

$$(1) \frac{|-12|}{\sqrt{16+9}} = \frac{12}{5}$$

$$(2) \frac{|-6-6+6|}{\sqrt{4+9}} = \frac{6}{\sqrt{13}} = \frac{6\sqrt{13}}{13}$$

$$(3) \begin{array}{l} -3x - y - 8 = 0 \text{ と } 12 \\ \frac{|3+6-8|}{\sqrt{9+1}} = \frac{1}{\sqrt{10}} = \frac{\sqrt{10}}{10} \end{array}$$

$$(4) \begin{array}{l} 2y = x - 3 \quad -x + 2y + 3 = 0 \text{ と } 12 \\ \frac{|-3+2+3|}{\sqrt{1+4}} = \frac{2}{\sqrt{5}} = \frac{2\sqrt{5}}{5} \end{array}$$