

【中2数学 | 一次関数】

単元別演習

下のようにグラフ上の2点が与えられている。それぞれの1次関数の式を求めよ。

(1) (1,1) (2,2)

$$y = ax + b$$

$$2 = 2a + b \dots \textcircled{1}$$

$$1 = a + b \dots \textcircled{2}$$

$$\textcircled{1} - \textcircled{2} \text{ より}$$

$$a = 1$$

$$\textcircled{2} \text{ に代入}$$

$$1 = 1 + b$$

$$\therefore b = 0$$

$$\therefore y = x$$

(2) (3,-1) (5,9)

$$y = ax + b$$

$$-1 = 3a + b \dots \textcircled{1}$$

$$9 = 5a + b \dots \textcircled{2}$$

$$\textcircled{1} - \textcircled{2} \text{ より}$$

$$2a = 10$$

$$\therefore a = 5$$

$$\textcircled{1} \text{ に代入}$$

$$9 = 25 + b$$

$$\therefore b = -16$$

$$\therefore y = 5x - 16$$

(3) (2,1) (1,-2)

$$y = ax + b$$

$$1 = 2a + b \dots \textcircled{1}$$

$$-2 = a + b \dots \textcircled{2}$$

$$\textcircled{1} - \textcircled{2} \text{ より}$$

$$a = 3$$

$$\textcircled{2} \text{ に代入}$$

$$-2 = 3 + b$$

$$\therefore b = -5$$

$$\therefore y = 3x - 5$$

(4) (1,3) (5,-5)

$$y = ax + b$$

$$3 = a + b \dots \textcircled{1}$$

$$-5 = 5a + b \dots \textcircled{2}$$

$$\textcircled{2} - \textcircled{1} \text{ より}$$

$$4a = -8$$

$$\therefore a = -2$$

$$\textcircled{1} \text{ に代入}$$

$$3 = -2 + b$$

$$\therefore b = 5$$

$$\therefore y = -2x + 5$$

(5) (1,1) (3,2)

$$y = ax + b$$

$$1 = a + b \dots \textcircled{1}$$

$$2 = 3a + b \dots \textcircled{2}$$

$$\textcircled{2} - \textcircled{1} \text{ より}$$

$$2a = 1$$

$$\therefore a = \frac{1}{2}$$

$$\textcircled{1} \text{ に代入}$$

$$1 = \frac{1}{2} + b$$

$$\therefore b = \frac{1}{2}$$

$$\therefore y = \frac{1}{2}x + \frac{1}{2}$$

(6) (2,3) (5,2)

$$y = ax + b$$

$$3 = 2a + b \dots \textcircled{1}$$

$$2 = 5a + b \dots \textcircled{2}$$

$$\textcircled{2} - \textcircled{1} \text{ より}$$

$$3a = -1$$

$$\therefore a = -\frac{1}{3}$$

$$\textcircled{1} \text{ に代入} \quad \therefore y = -\frac{1}{3}x + \frac{11}{3}$$

$$3 = -\frac{2}{3} + b$$

$$\therefore b = \frac{11}{3}$$