

P 5 3 2章の章末問題

1.

$$(1) \begin{cases} x + y = 8 \\ x - y = -2 \end{cases}$$

$$\begin{array}{r} +) \\ \hline 2x = 6 \\ x = 3 \\ 3 + y = 8 \\ y = 5 \\ (x, y) = (3, 5) \end{array}$$

$$(2) \begin{cases} 2x + 6y = 3 \\ 6x + 3y = 4 \end{cases}$$

$$\begin{array}{r} 6x + 18y = 9 \\ -) \\ \hline 6x + 3y = 4 \\ 15y = 5 \\ y = \frac{1}{3} \\ 2x + 2 = 3 \\ 2x = 1 \\ x = \frac{1}{2} \\ (x, y) = \left(\frac{1}{2}, \frac{1}{3}\right) \end{array}$$

$$(3) \begin{cases} 4x - 3y = 50 \\ 3x - 2y = 50 \end{cases}$$

$$\begin{array}{r} 12x - 9y = 150 \\ -) \\ \hline 12x - 8y = 200 \\ -y = -50 \\ y = 50 \\ 4x - 150 = 50 \\ 4x = 200 \\ x = 50 \\ (x, y) = (50, 50) \end{array}$$

$$(4) \begin{cases} y = 3x - 5 \\ x + y = 7 \end{cases}$$

$$\begin{array}{r} x + (3x - 5) = 7 \\ x + 3x - 5 = 7 \\ 4x = 12 \quad x = 3 \\ y = 9 - 5 = 4 \\ (x, y) = (3, 4) \end{array}$$

$$(5) \begin{cases} y = 2x + 3 \\ y = 6x - 1 \end{cases}$$

$$\begin{array}{r} -) \\ \hline 0 = -4x + 4 \\ 4x = 4 \\ x = 1 \\ y = 2 + 3 = 5 \\ (x, y) = (1, 5) \end{array}$$

$$(6) \begin{cases} 10 = 5a + b \\ 1 = 2a + b \end{cases}$$

$$\begin{array}{r} -) \\ \hline 9 = 3a \\ a = 3 \\ 1 = 6 + b \\ b = -5 \\ (a, b) = (3, -5) \end{array}$$

2.

$$(1) \begin{cases} 3(x - 2y) = y - 17 \\ 6x + 5y = 4 \end{cases}$$

$$\begin{array}{r} 3x - 6y = y - 17 \\ 3x - 7y = -17 \\ 6x - 14y = -34 \\ 6x + 5y = 4 \\ -) \\ \hline -19y = -38 \\ y = 2 \\ 6x + 10 = 4 \\ 6x = -6 \quad x = -1 \end{array}$$

$$(2) \begin{cases} 3x - 2y = 3 \\ \frac{1}{2}x + \frac{3}{4}y = 7 \end{cases}$$

$$\begin{array}{r} 2x + 3y = 28 \\ 6x + 9y = 84 \\ -) \\ \hline 6x - 4y = 6 \\ 13y = 78 \\ y = 6 \\ 3x - 12 = 3 \\ 3x = 15 \quad x = 5 \\ (x, y) = (5, 6) \end{array}$$

$$(3) \begin{cases} 0.5x - 0.3y = 1 \\ x = 3y + 2 \end{cases}$$

$$5x - 3y = 10$$

$$5(3y + 2) - 3y = 10$$

$$15y + 10 - 3y = 10$$

$$12y = 0 \quad y = 0$$

$$x = 2$$

$$(x, y) = (2, 0)$$

$$(4) \begin{cases} 5x + 2y = 2(x + 2y) + 8 \\ \frac{x}{4} + \frac{y}{3} = \frac{1}{6} \end{cases}$$

$$5x + 2y = 2x + 4y + 8$$

$$3x - 2y = 8$$

$$3x + 4y = 2$$

$$+ ) \quad \underline{6x - 4y = 16}$$

$$9x = 18 \quad x = 2$$

$$6 - 2y = 8$$

$$-2y = 2 \quad y = -1$$

$$(x, y) = (2, -1)$$

3.

$$(1) \quad 4x - y - 7 = 3x + 2y = -1$$

$$\begin{cases} 4x - y - 7 = -1 \\ 3x + 2y = -1 \end{cases}$$

$$4x - y = +6$$

$$\begin{cases} 8x - 2y = 12 \\ (3) \quad 3x + 2y = 5 + 3y = 2x + 11 \end{cases}$$

$$+ ) \quad \underline{3x + 2y = -1}$$

$$\begin{cases} 1 \quad 1x = 1 \\ 3x + 2y = 2x + 11 \end{cases}$$

$$\begin{cases} x = 1 \\ 5 + 3y = 2x + 11 \end{cases}$$

$$4 - y = 6$$

$$\begin{cases} x + 2y = 11 \\ -y = 2 \quad y = -2 \end{cases}$$

$$\begin{cases} -2x + 3y = 6 \\ (x, y) = (1, -2) \end{cases}$$

$$+ ) \quad \underline{2x + 4y = 22}$$

$$7y = 28$$

$$y = 4$$

$$x + 8 = 11 \quad x = 3$$

$$(x, y) = (3, 4)$$

$$(2) \quad \frac{x+y}{4} = \frac{x+1}{3} = 1$$

$$\begin{cases} \frac{x+y}{4} = 1 & x+y=4 \\ \frac{x+1}{3} = 1 & x+1=3 \quad x=2 \\ & 2+y=4 \quad y=2 \end{cases}$$

$$(x, y) = (2, 2)$$

