

次の連立方程式を代入法で解きなさい。

$$(1) \begin{cases} y = 4x - 10 & \dots\dots① \\ 7x - 5y = 24 & \dots\dots② \end{cases}$$

$$\underline{(x, y) = (\quad , \quad)}$$

$$(2) \begin{cases} y = -x + 2 & \dots\dots① \\ -4x - y = -17 & \dots\dots② \end{cases}$$

$$\underline{(x, y) = (\quad , \quad)}$$

$$(3) \begin{cases} 5x - 2y = 54 & \dots\dots① \\ y = -5x + 93 & \dots\dots② \end{cases}$$

$$\underline{(x, y) = (\quad , \quad)}$$

$$(4) \begin{cases} 6x + y = -46 & \dots\dots① \\ -7x - 4y = 65 & \dots\dots② \end{cases}$$

$$\underline{(x, y) = (\quad , \quad)}$$

$$(5) \begin{cases} 4x - y = 52 & \dots\dots① \\ -3x + y = -40 & \dots\dots② \end{cases}$$

$$\underline{(x, y) = (\quad , \quad)}$$

解 答

(1) ①を②に代入する

$$7x - 5(4x - 10) = 24$$

$$7x - 20x + 50 = 24$$

$$-13x = -26$$

$$x = 2$$

①に代入

$$y = 4 \times 2 - 10$$

$$\underline{(x, y) = (2, -2)}$$

$$y = -2$$

(2) ①を②に代入する

$$-4x - (-x + 2) = -17$$

$$-4x + x - 2 = -17$$

$$-3x = -15$$

$$x = 5$$

①に代入

$$y = -1 \times 5 + 2$$

$$\underline{(x, y) = (5, -3)}$$

$$y = -3$$

(3) ②を①に代入する

$$5x - 2(-5x + 93) = 54$$

$$5x + 10x - 186 = 54$$

$$15x = 240$$

$$x = 16$$

②に代入

$$y = -5 \times 16 + 93$$

$$\underline{(x, y) = (16, 13)}$$

$$y = 13$$

(4) ①を変形 $y = -6x - 46 \dots\dots①'$

②に代入 $-7x - 4(-6x - 46) = 65$

$$-7x + 24x + 184 = 65$$

$$17x = -119$$

$$x = -7$$

①'に代入

$$y = -6 \times (-7) - 46$$

$$\underline{(x, y) = (-7, -4)}$$

$$y = -4$$

(5) ②を変形 $y = 3x - 40 \dots\dots②'$

①に代入 $4x - (3x - 40) = 52$

$$4x - 3x + 40 = 52$$

$$x = 12$$

$$x = 12$$

②'に代入

$$y = 3 \times 12 - 40$$

$$\underline{(x, y) = (12, -4)}$$

$$y = -4$$