

【中2数学 | 連立方程式】

単元別演習

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【1】 次の連立方程式を解きなさい。

$$(1) \begin{cases} 3x - 2y = 13 & \dots \textcircled{1} \\ 4x + 5y = 2 & \dots \textcircled{2} \end{cases}$$

① × 4 - ② × 3 より.

$$-23y = 46$$

$$\therefore y = -2$$

① に代入

$$3x + 4 = 13$$

$$\therefore x = 3 \quad \therefore x = 3, y = -2$$

$$(2) \begin{cases} x = 5 - 2y & \dots \textcircled{1} \\ 2x - 3y = -4 & \dots \textcircled{2} \end{cases}$$

① を ② に代入

$$2(5 - 2y) - 3y = -4$$

$$-7y = -14$$

$$\therefore y = 2$$

① に代入

$$x = 5 - 4 = 1 \quad \therefore x = 1, y = 2$$

$$(3) \begin{cases} \frac{x+y}{2} - \frac{x}{3} = 1 & \dots \textcircled{1} \\ x + 2y = 2 & \dots \textcircled{2} \end{cases}$$

① × 6 より.

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

$$\therefore x + 3y = 6 \dots \textcircled{1}'$$

①' - ② より.

$$y = 4$$

② に代入

$$x + 8 = 2$$

$$\therefore x = -6$$

$$\therefore x = -6, y = 4$$

$$(4) \begin{cases} 2x - 3y = 7 & \dots \textcircled{1} \\ \frac{x}{4} + \frac{y}{6} = \frac{1}{3} & \dots \textcircled{2} \end{cases}$$

② × 12 より.

$$3x + 2y = 4 \dots \textcircled{2}'$$

① × 2 + ②' × 3 より.

$$13x = 26$$

$$\therefore x = 2$$

① に代入

$$4 - 3y = 7$$

$$(5) \begin{cases} \frac{x}{2} - \frac{y+1}{4} = -2 & \dots \textcircled{1} \\ x + 4y = 10 & \dots \textcircled{2} \end{cases}$$

① × 4 より.

$$2x - (y+1) = -8$$

$$2x - y = -7 \dots \textcircled{1}'$$

② × 2 - ①' より.

$$9y = 27$$

$$\therefore y = 3$$

② に代入

$$x + 12 = 10$$

$$\therefore x = -2$$

$$\therefore x = -2$$

$$y = 3$$

$$(6) \begin{cases} x:(y+1) = 1:2 & \dots \textcircled{1} \\ (x+1):(y-1) = 3:4 & \dots \textcircled{2} \end{cases}$$

① より.

$$2x = y + 1$$

$$2x - y = 1 \dots \textcircled{1}'$$

② より.

$$4(x+1) = 3(y-1)$$

$$4x - 3y = -7 \dots \textcircled{2}'$$

①' × 3 - ②' より.

$$2x = 10$$

$$\therefore x = 5$$

①' に代入

$$10 - y = 1$$

$$\therefore y = 9$$

$$\therefore x = 5$$

$$y = 9$$