

# 「数が苦」を「数楽」にその14

2年 組 番 氏名

## 【1】加減法

加減法1〔①+②〕

次の連立方程式を解きなさい。

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

[解答]

$\begin{array}{r} ① \quad x + y = 7 \\ +) ② \quad x - y = 3 \\ \hline 2x \quad = 10 \\ x = 5 \end{array}$	$x = 5$ を①に代入 $\begin{array}{r} 5 + y = 7 \\ y = 7 - 5 \\ y = 2 \end{array}$
	答え $\begin{cases} x = 5 \\ y = 2 \end{cases}$

$$(2) \begin{cases} 2x + y = 13 \dots ① \\ x - y = 2 \dots ② \end{cases}$$

[解答]

$\begin{array}{r} ① \quad 2x + y = 13 \\ +) ② \quad x - y = 2 \\ \hline 3x \quad = 15 \\ x = 5 \end{array}$	$x = 5$ を①に代入 $\begin{array}{r} 10 + y = 13 \\ y = 13 - 10 \\ y = 3 \end{array}$
	答え $\begin{cases} x = 5 \\ y = 3 \end{cases}$

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

[解答]

$\begin{array}{r} ① \quad -x + y = 4 \\ +) ② \quad x + 2y = 17 \\ \hline 3y = 21 \\ y = 7 \end{array}$	$y = 7$ を②に代入 $\begin{array}{r} x + 14 = 17 \\ x = 17 - 14 \\ x = 3 \end{array}$
	答え $\begin{cases} x = 3 \\ y = 7 \end{cases}$

$$(4) \begin{cases} 3x + 2y = 6 \dots ① \\ x - 2y = 10 \dots ② \end{cases}$$

[解答]

$\begin{array}{r} ① \quad 3x + 2y = 6 \\ +) ② \quad x - 2y = 10 \\ \hline 4x \quad = 16 \\ x = 4 \end{array}$	$x = 4$ を①に代入 $\begin{array}{r} 12 + 2y = 6 \\ 2y = 6 - 12 \\ 2y = -6 \\ y = -3 \end{array}$
	答え $\begin{cases} x = 4 \\ y = -3 \end{cases}$

$$(5) \begin{cases} 3x - 4y = 20 \dots ① \\ -3x + y = -14 \dots ② \end{cases}$$

[解答]

$\begin{array}{r} ① \quad 3x - 4y = 20 \\ +) ② \quad -3x + y = -14 \\ \hline -3y = 6 \\ y = -2 \end{array}$	$y = -2$ を①に代入 $\begin{array}{r} 3x + 8 = 20 \\ 3x = 20 - 8 \\ 3x = 12 \\ x = 4 \end{array}$
	答え $\begin{cases} x = 4 \\ y = -2 \end{cases}$

$$(6) \begin{cases} -2x + 2y = 2 \dots ① \\ 2x + 3y = 13 \dots ② \end{cases}$$

[解答]

$\begin{array}{r} ① \quad -2x + 2y = 2 \\ +) ② \quad 2x + 3y = 13 \\ \hline 5y = 15 \\ y = 3 \end{array}$	$y = 3$ を②に代入 $\begin{array}{r} 2x + 9 = 13 \\ 2x = 13 - 9 \\ 2x = 4 \\ x = 2 \end{array}$
	答え $\begin{cases} x = 2 \\ y = 3 \end{cases}$

$$(7) \begin{cases} 4x - 2y = -8 \dots ① \\ x + 2y = 3 \dots ② \end{cases}$$

[解答]

$\begin{array}{r} ① \quad 4x - 2y = -8 \\ +) ② \quad x + 2y = 3 \\ \hline 5x \quad = -5 \\ x = -1 \end{array}$	$x = -1$ を②に代入 $\begin{array}{r} -1 + 2y = 3 \\ 2y = 3 + 1 \\ 2y = 4 \\ y = 2 \end{array}$
	答え $\begin{cases} x = -1 \\ y = 2 \end{cases}$

$$(8) \begin{cases} x + 3y = 9 \dots ① \\ 6x - 3y = 5 \dots ② \end{cases}$$

[解答]

$\begin{array}{r} ① \quad x + 3y = 9 \\ +) ② \quad 6x - 3y = 5 \\ \hline 7x \quad = 14 \\ x = 2 \end{array}$	$x = 2$ を①に代入 $\begin{array}{r} 2 + 3y = 9 \\ 3y = 9 - 2 \\ 3y = 7 \\ y = \frac{7}{3} \end{array}$
	答え $\begin{cases} x = 2 \\ y = \frac{7}{3} \end{cases}$

# 「数が苦」を「数楽」にその15

2年 組 番 氏名

## 【1】加減法

加減法2 [ ①-② (②-①) ]

次の連立方程式を解きなさい。

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

[解答]

① $x + y = 7$	$y = 2$ を①に代入
-) ② $x - y = 3$	$x + 2 = 7$
$2y = 4$	$x = 7 - 2$
$y = 2$	$x = 5$

答え  $\begin{cases} x = 5 \\ y = 2 \end{cases}$

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

[解答]

① $x - 2y = 3$	$y = 1$ を①に代入
-) ② $x - 3y = 2$	$x - 2 = 3$
$y = 1$	$x = 3 + 2$
$y = 1$	$x = 5$

答え  $\begin{cases} x = 5 \\ y = 1 \end{cases}$

(3)  $\begin{cases} x + 3y = -20 \dots ① \\ x - 2y = 10 \dots ② \end{cases}$

[解答]

① $x + 3y = -20$	$y = -6$ を②に代入
-) ② $x - 2y = 10$	$x + 12 = 10$
$5y = -30$	$x = 10 - 12$
$y = -6$	$x = -2$

答え  $\begin{cases} x = -2 \\ y = -6 \end{cases}$

(4)  $\begin{cases} 5x + y = 7 \dots ① \\ 3x + y = 5 \dots ② \end{cases}$

[解答]

① $5x + y = 7$	$x = 1$ を①に代入
-) ② $3x + y = 5$	$5 + y = 7$
$2x = 2$	$y = 7 - 5$
$x = 1$	$y = 2$

答え  $\begin{cases} x = 1 \\ y = 2 \end{cases}$

(5)  $\begin{cases} 3x + 3y = 9 \dots ① \\ 3x + 2y = 17 \dots ② \end{cases}$

[解答]

① $3x + 3y = 9$	$y = -8$ を①に代入
-) ② $3x + 2y = 17$	$3x - 24 = 9$
$y = -8$	$3x = 9 + 24$
	$3x = 33$
	$x = 11$

答え  $\begin{cases} x = 11 \\ y = -8 \end{cases}$

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

[解答]

① $2x - y = -4$	$y = 2$ を①に代入
-) ② $2x + 4y = 6$	$2x - 2 = -4$
$-5y = -10$	$2x = -4 + 2$
$y = 2$	$2x = -2$
	$x = -1$

答え  $\begin{cases} x = -1 \\ y = 2 \end{cases}$

(7)  $\begin{cases} 5x + 10y = 10 \dots ① \\ 5x + 3y = -4 \dots ② \end{cases}$

[解答]

① $5x + 10y = 10$	$y = 2$ を①に代入
-) ② $5x + 3y = -4$	$5x + 20 = 10$
$7y = 14$	$5x = 10 - 20$
$y = 2$	$5x = -10$
	$x = -2$

答え  $\begin{cases} x = -2 \\ y = 2 \end{cases}$

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

[解答]

① $4x - 2y = 2$	$y = -\frac{1}{5}$ を①に代入
-) ② $4x + 3y = 1$	$4x + \frac{2}{5} = 2$
$-5y = 1$	$20x + 2 = 10$
$y = -\frac{1}{5}$	$20x = 8$
	$x = \frac{2}{5}$

答え  $\begin{cases} x = \frac{2}{5} \\ y = -\frac{1}{5} \end{cases}$

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2年 組 番 氏名

## 【1】加減法

加減法3 [ ①×a+② (①+②×a) ]

次の連立方程式を解きなさい。

$$(1) \begin{cases} 2x + 3y = 14 \dots ① \\ x - y = 2 \dots ② \end{cases}$$

[解答]

$$\begin{array}{r} ① \quad 2x + 3y = 14 \\ +) ② \times 2 \quad 3x - 3y = 6 \\ \hline 5x = 20 \\ x = 4 \end{array} \quad \begin{array}{l} x = 4 \text{を} ② \text{に代入} \\ 4 - y = 2 \\ -y = 2 - 4 \\ -y = -2 \\ y = 2 \end{array}$$

答え  $\begin{cases} x = 4 \\ y = 2 \end{cases}$

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

[解答]

$$\begin{array}{r} ① \times 2 \quad 4x - 2y = -8 \\ +) ② \quad x + 2y = 3 \\ \hline 5x = -5 \\ x = -1 \end{array} \quad \begin{array}{l} x = -1 \text{を} ① \text{に代入} \\ -1 + 2y = 3 \\ 2y = 3 + 1 \\ 2y = 4 \\ y = 2 \end{array}$$

答え  $\begin{cases} x = -1 \\ y = 2 \end{cases}$

$$(3) \begin{cases} 4x + 3y = 11 \dots ① \\ -2x + 7y = 3 \dots ② \end{cases}$$

[解答]

$$\begin{array}{r} ① \quad 4x + 3y = 11 \\ +) ② \times 2 \quad -4x + 14y = 6 \\ \hline 17y = 17 \\ y = 1 \end{array} \quad \begin{array}{l} y = 1 \text{を} ① \text{に代入} \\ 4x + 3 = 11 \\ 4x = 11 - 3 \\ 4x = 8 \\ x = 2 \end{array}$$

答え  $\begin{cases} x = 2 \\ y = 1 \end{cases}$

$$(4) \begin{cases} 4x + 5y = -8 \dots ① \\ -x + 2y = -11 \dots ② \end{cases}$$

[解答]

$$\begin{array}{r} ① \quad 4x + 5y = -8 \\ +) ② \times 4 \quad -4x + 8y = -44 \\ \hline 13y = -52 \\ y = -4 \end{array} \quad \begin{array}{l} y = -4 \text{を} ① \text{に代入} \\ 4x - 20 = -8 \\ 4x = -8 + 20 \\ 4x = 12 \\ x = 3 \end{array}$$

答え  $\begin{cases} x = 3 \\ y = -4 \end{cases}$

$$(5) \begin{cases} 5x - 2y = 19 \dots ① \\ 3x + 4y = 1 \dots ② \end{cases}$$

[解答]

$$\begin{array}{r} ① \times 2 \quad 10x - 4y = 38 \\ +) ② \quad 3x + 4y = 1 \\ \hline 13x = 39 \\ x = 3 \end{array} \quad \begin{array}{l} x = 3 \text{を} ② \text{に代入} \\ 9 + 4y = 1 \\ 4y = 1 - 9 \\ 4y = -8 \\ y = -2 \end{array}$$

答え  $\begin{cases} x = 3 \\ y = -2 \end{cases}$

$$(6) \begin{cases} 2x + 3y = -2 \dots ① \\ 3x - y = 19 \dots ② \end{cases}$$

[解答]

$$\begin{array}{r} ① \quad 2x + 3y = -2 \\ +) ② \times 3 \quad 9x - 3y = 57 \\ \hline 11x = 55 \\ x = 5 \end{array} \quad \begin{array}{l} x = 5 \text{を} ① \text{に代入} \\ 10 + 3y = -2 \\ 3y = -2 - 10 \\ 3y = -12 \\ y = -4 \end{array}$$

答え  $\begin{cases} x = 5 \\ y = -4 \end{cases}$

$$(7) \begin{cases} x + y = 3 \dots ① \\ -3x - 2y = -17 \dots ② \end{cases}$$

[解答]

$$\begin{array}{r} ① \times 3 \quad 3x + 3y = 9 \\ +) ② \quad -3x - 2y = -17 \\ \hline y = -8 \end{array} \quad \begin{array}{l} y = -8 \text{を} ① \text{に代入} \\ x - 8 = 3 \\ x = 3 + 8 \\ x = 11 \end{array}$$

答え  $\begin{cases} x = 11 \\ y = -8 \end{cases}$

$$(8) \begin{cases} -3x - 2y = 6 \dots ① \\ 14x + 6y = -8 \dots ② \end{cases}$$

[解答]

$$\begin{array}{r} ① \times 3 \quad -9x - 6y = 18 \\ +) ② \quad 14x + 6y = -8 \\ \hline 5x = 10 \\ x = 2 \end{array} \quad \begin{array}{l} x = 2 \text{を} ② \text{に代入} \\ 28 + 6y = -8 \\ 6y = -8 - 28 \\ 6y = -36 \\ y = -6 \end{array}$$

答え  $\begin{cases} x = 2 \\ y = -6 \end{cases}$

# 「数が苦」を「数楽」にその17

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## 【1】加減法

加減法4 [ ①×a-② (①-②×a) ]

次の連立方程式を解きなさい。

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

[解答]

$$\begin{array}{r} ① \times 3 \quad 3x+3y=6 \\ -) ② \quad 3x+2y=5 \\ \hline \qquad \qquad y=1 \end{array}$$

$$\begin{array}{l} y=1を①に代入 \\ x+1=2 \\ x=2-1 \\ x=1 \end{array}$$

$$\text{答え} \begin{cases} x=1 \\ y=1 \end{cases}$$

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

[解答]

$$\begin{array}{r} ① \times 2 \quad 2x-4y=-8 \\ -) ② \quad 2x+3y=1 \\ \hline \qquad \qquad y=1 \\ \qquad \qquad y=1 \end{array}$$

$$\begin{array}{l} y=1を①に代入 \\ x-2=3 \\ x=3+2 \\ x=5 \end{array}$$

$$\text{答え} \begin{cases} x=5 \\ y=1 \end{cases}$$

$$(3) \begin{cases} 4x-3y=18 & \dots ① \\ 2x-5y=2 & \dots ② \end{cases}$$

[解答]

$$\begin{array}{r} ① \quad x+3y=-20 \\ -) ② \quad x-2y=10 \\ \hline \qquad \qquad 5y=-30 \\ \qquad \qquad y=-6 \end{array}$$

$$\begin{array}{l} y=-6を②に代入 \\ x+12=10 \\ x=10-12 \\ x=-2 \end{array}$$

$$\text{答え} \begin{cases} x=-2 \\ y=-6 \end{cases}$$

$$(4) \begin{cases} 4x+5y=-8 & \dots ① \\ x-2y=11 & \dots ② \end{cases}$$

[解答]

$$\begin{array}{r} ① \quad 4x+5y=-8 \\ -) ② \times 4 \quad 4x-8y=44 \\ \hline \qquad \qquad 13y=-52 \\ \qquad \qquad y=-4 \end{array}$$

$$\begin{array}{l} y=-4を②に代入 \\ x+8=11 \\ x=11-8 \\ x=3 \end{array}$$

$$\text{答え} \begin{cases} x=3 \\ y=-4 \end{cases}$$

$$(5) \begin{cases} 3x-2y=-7 & \dots ① \\ 4x-y=-6 & \dots ② \end{cases}$$

[解答]

$$\begin{array}{r} ① \quad 3x-2y=-7 \\ -) ② \times 2 \quad 8x-2y=-12 \\ \hline \qquad \qquad -5x=5 \\ \qquad \qquad x=-1 \end{array}$$

$$\begin{array}{l} x=-1を①に代入 \\ -4-y=-6 \\ -y=-6+4 \\ -y=-2 \\ y=2 \end{array}$$

$$\text{答え} \begin{cases} x=-1 \\ y=2 \end{cases}$$

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

[解答]

$$\begin{array}{r} ① \times 5 \quad 5x+10y=10 \\ -) ② \quad 5x+3y=-4 \\ \hline \qquad \qquad 7y=14 \\ \qquad \qquad y=2 \end{array}$$

$$\begin{array}{l} y=2を①に代入 \\ x+4=2 \\ x=2-4 \\ x=-2 \end{array}$$

$$\text{答え} \begin{cases} x=-2 \\ y=2 \end{cases}$$

$$(7) \begin{cases} x+y=3 & \dots ① \\ 3x+2y=17 & \dots ② \end{cases}$$

[解答]

$$\begin{array}{r} ① \times 3 \quad 3x+3y=9 \\ -) ② \quad 3x+2y=17 \\ \hline \qquad \qquad y=-8 \end{array}$$

$$\begin{array}{l} y=-8を①に代入 \\ x-8=3 \\ x=3+8 \\ x=11 \end{array}$$

$$\text{答え} \begin{cases} x=11 \\ y=-8 \end{cases}$$

$$(8) \begin{cases} 3x+2y=-6 & \dots ① \\ 14x+6y=-8 & \dots ② \end{cases}$$

[解答]

$$\begin{array}{r} ① \times 3 \quad 9x+6y=-18 \\ -) ② \quad 14x+6y=-8 \\ \hline \qquad \qquad -5x=-10 \\ \qquad \qquad x=2 \end{array}$$

$$\begin{array}{l} x=2を①に代入 \\ 6+2y=-6 \\ 2y=-6-6 \\ 2y=-12 \\ y=-6 \end{array}$$

$$\text{答え} \begin{cases} x=2 \\ y=-6 \end{cases}$$

# 「数が苦」を「数楽」にその18

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## 【1】加減法

加減法5 [ ①×a+②×b ]

次の連立方程式を解きなさい。

$$(1) \begin{cases} -2x + 3y = 12 & \dots ① \\ 5x - 4y = -9 & \dots ② \end{cases}$$

[解答]

$$\begin{array}{r} ① \times 5 \quad -10x + 15y = 60 \\ +) ② \times 2 \quad 10x - 8y = -18 \\ \hline \phantom{+)} \phantom{② \times 2} \phantom{10x} - 23y = 42 \\ \phantom{+)} \phantom{② \times 2} \phantom{10x} \phantom{-} \phantom{23} y = -6 \end{array}$$

$y = 6$ を①に代入

$$\begin{array}{r} -2x + 18 = 12 \\ -2x = 12 - 18 \\ -2x = -6 \\ -2x = -6 \\ x = 3 \end{array}$$

答え  $\begin{cases} x = 3 \\ y = 6 \end{cases}$

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

[解答]

$$\begin{array}{r} ① \times 3 \quad 6x - 9y = 9 \\ +) ② \times 2 \quad -6x + 4y = 6 \\ \hline \phantom{+)} \phantom{② \times 2} \phantom{-6x} -5y = 15 \\ \phantom{+)} \phantom{② \times 2} \phantom{-6x} \phantom{-} \phantom{5} y = -3 \end{array}$$

$y = -3$ を①に代入

$$\begin{array}{r} 2x + 9 = 3 \\ 2x = 3 - 9 \\ 2x = -6 \\ 2x = -6 \\ x = -3 \end{array}$$

答え  $\begin{cases} x = -3 \\ y = -3 \end{cases}$

$$(3) \begin{cases} 4x - 5y = 12 & \dots ① \\ -3x + 7y = 4 & \dots ② \end{cases}$$

[解答]

$$\begin{array}{r} ① \times 3 \quad 12x - 15y = 36 \\ +) ② \times 4 \quad -12x + 28y = 16 \\ \hline \phantom{+)} \phantom{② \times 4} \phantom{-12x} 13y = 52 \\ \phantom{+)} \phantom{② \times 4} \phantom{-12x} \phantom{-} \phantom{13} y = 4 \end{array}$$

$y = 4$ を①に代入

$$\begin{array}{r} 4x - 20 = 12 \\ 4x = 12 + 20 \\ 4x = 32 \\ 4x = 32 \\ x = 8 \end{array}$$

答え  $\begin{cases} x = 8 \\ y = 4 \end{cases}$

$$(4) \begin{cases} 3x + 2y = -8 & \dots ① \\ -4x - 2y = 6 & \dots ② \end{cases}$$

[解答]

$$\begin{array}{r} ① \times 4 \quad 12x + 8y = -32 \\ +) ② \times 3 \quad -12x - 6y = 36 \\ \hline \phantom{+)} \phantom{② \times 3} \phantom{-12x} 2y = 4 \\ \phantom{+)} \phantom{② \times 3} \phantom{-12x} \phantom{-} \phantom{2} y = 2 \end{array}$$

$y = 2$ を①に代入

$$\begin{array}{r} 3x + 4 = -8 \\ 3x = -8 - 4 \\ 3x = -12 \\ 3x = -12 \\ x = -4 \end{array}$$

答え  $\begin{cases} x = -4 \\ y = 2 \end{cases}$

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

[解答]

$$\begin{array}{r} ① \quad 3x - 4y = 20 \\ +) ② \quad -3x + y = -14 \\ \hline \phantom{+)} \phantom{②} \phantom{-3x} -3y = 6 \\ \phantom{+)} \phantom{②} \phantom{-3x} \phantom{-} \phantom{3} y = -2 \end{array}$$

$y = -2$ を①に代入

$$\begin{array}{r} 3x + 8 = 20 \\ 3x = 20 - 8 \\ 3x = 12 \\ 3x = 12 \\ x = 4 \end{array}$$

答え  $\begin{cases} x = 4 \\ y = -2 \end{cases}$

$$(6) \begin{cases} -2x + 3y = -2 & \dots ① \\ 3x - 7y = 19 & \dots ② \end{cases}$$

[解答]

$$\begin{array}{r} ① \quad -2x + 2y = 2 \\ +) ② \quad 2x + 3y = 13 \\ \hline \phantom{+)} \phantom{②} \phantom{2x} 5y = 15 \\ \phantom{+)} \phantom{②} \phantom{2x} \phantom{-} \phantom{5} y = 3 \end{array}$$

$y = 3$ を②に代入

$$\begin{array}{r} 2x + 9 = 13 \\ 2x = 13 - 9 \\ 2x = 4 \\ 2x = 4 \\ x = 2 \end{array}$$

答え  $\begin{cases} x = 2 \\ y = 3 \end{cases}$

$$(7) \begin{cases} 8x + 9y = 3 & \dots ① \\ -6x - 2y = -17 & \dots ② \end{cases}$$

[解答]

$$\begin{array}{r} ① \quad 4x - 2y = -8 \\ +) ② \quad x + 2y = 3 \\ \hline \phantom{+)} \phantom{②} \phantom{x} 5x = -5 \\ \phantom{+)} \phantom{②} \phantom{x} \phantom{-} \phantom{5} x = -1 \end{array}$$

$x = -1$ を②に代入

$$\begin{array}{r} -1 + 2y = 3 \\ 2y = 3 + 1 \\ 2y = 4 \\ 2y = 4 \\ y = 2 \end{array}$$

答え  $\begin{cases} x = -1 \\ y = 2 \end{cases}$

$$(8) \begin{cases} -3x + 4y = -6 & \dots ① \\ 14x - 6y = -8 & \dots ② \end{cases}$$

[解答]

$$\begin{array}{r} ① \quad x + 3y = 9 \\ +) ② \quad 6x - 3y = 5 \\ \hline \phantom{+)} \phantom{②} \phantom{6x} 7x = 14 \\ \phantom{+)} \phantom{②} \phantom{6x} \phantom{-} \phantom{7} x = 2 \end{array}$$

$x = 2$ を①に代入

$$\begin{array}{r} 2 + 3y = 9 \\ 3y = 9 - 2 \\ 3y = 7 \\ 3y = 7 \\ y = \frac{7}{3} \end{array}$$

答え  $\begin{cases} x = 2 \\ y = \frac{7}{3} \end{cases}$

# 「数が苦」を「数楽」にその19

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## 【1】加減法

加減法6 [ ①×a+②×b ]

$$(1) \begin{cases} 2x - 3y = 12 & \dots \textcircled{1} \\ 5x - 2y = 9 & \dots \textcircled{2} \end{cases}$$

[解答]

$$\begin{array}{r} \textcircled{1} \quad x + y = 7 \\ -) \textcircled{2} \quad x - y = 3 \\ \hline \quad \quad 2y = 4 \\ \quad \quad y = 2 \end{array}$$

$$\begin{array}{l} y = 2 \text{を}\textcircled{1}\text{に代入} \\ x + 2 = 7 \\ x = 7 - 2 \\ x = 5 \end{array}$$

$$\text{答え} \begin{cases} x = 5 \\ y = 2 \end{cases}$$

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

[解答]

$$\begin{array}{r} \textcircled{1} \quad x - 2y = 3 \\ -) \textcircled{2} \quad x - 3y = 2 \\ \hline \quad \quad y = 1 \\ \quad \quad y = 1 \end{array}$$

$$\begin{array}{l} y = 1 \text{を}\textcircled{1}\text{に代入} \\ x - 2 = 3 \\ x = 3 + 2 \\ x = 5 \end{array}$$

$$\text{答え} \begin{cases} x = 5 \\ y = 1 \end{cases}$$

$$(3) \begin{cases} 4x - 3y = 10 & \dots \textcircled{1} \\ 3x - 7y = 3 & \dots \textcircled{2} \end{cases}$$

[解答]

$$\begin{array}{r} \textcircled{1} \quad x + 3y = -20 \\ -) \textcircled{2} \quad x - 2y = 10 \\ \hline \quad \quad 5y = -30 \\ \quad \quad y = -6 \end{array}$$

$$\begin{array}{l} y = -6 \text{を}\textcircled{2}\text{に代入} \\ x + 12 = 10 \\ x = 10 - 12 \\ x = -2 \end{array}$$

$$\text{答え} \begin{cases} x = -2 \\ y = -6 \end{cases}$$

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

[解答]

$$\begin{array}{r} \textcircled{1} \quad 5x + y = 7 \\ -) \textcircled{2} \quad 3x + y = 5 \\ \hline \quad \quad 2x = 2 \\ \quad \quad x = 1 \end{array}$$

$$\begin{array}{l} x = 1 \text{を}\textcircled{1}\text{に代入} \\ 5 + y = 7 \\ y = 7 - 5 \\ y = 2 \end{array}$$

$$\text{答え} \begin{cases} x = 1 \\ y = 2 \end{cases}$$

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

[解答]

$$\begin{array}{r} \textcircled{1} \quad 3x + 3y = 9 \\ -) \textcircled{2} \quad 3x + 2y = 17 \\ \hline \quad \quad y = -8 \end{array}$$

$$\begin{array}{l} y = -8 \text{を}\textcircled{1}\text{に代入} \\ 3x + 3 \times (-8) = 9 \\ 3x - 24 = 9 \\ 3x = 9 + 24 \\ 3x = 33 \\ x = 11 \end{array}$$

$$\text{答え} \begin{cases} x = 11 \\ y = -8 \end{cases}$$

$$(6) \begin{cases} -2x + 3y = -2 & \dots \textcircled{1} \\ 3x - 7y = 19 & \dots \textcircled{2} \end{cases}$$

[解答]

$$\begin{array}{r} \textcircled{1} \quad 2x - y = -4 \\ -) \textcircled{2} \quad 2x + 4y = 6 \\ \hline \quad \quad -5y = -10 \\ \quad \quad y = 2 \end{array}$$

$$\begin{array}{l} y = 2 \text{を}\textcircled{1}\text{に代入} \\ 2x - 2 = -4 \\ 2x = -4 + 2 \\ 2x = -2 \\ x = -1 \end{array}$$

$$\text{答え} \begin{cases} x = -1 \\ y = 2 \end{cases}$$

$$(7) \begin{cases} 8x + 9y = 3 & \dots \textcircled{1} \\ -6x - 2y = -17 & \dots \textcircled{2} \end{cases}$$

[解答]

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

$$\begin{array}{l} y = 2 \text{を}\textcircled{1}\text{に代入} \\ 5x + 20 = 10 \\ 5x = 10 - 20 \\ 5x = -10 \\ x = -2 \end{array}$$

$$\text{答え} \begin{cases} x = -2 \\ y = 2 \end{cases}$$

$$(8) \begin{cases} -3x + 4y = -6 & \dots \textcircled{1} \\ 14x - 6y = -8 & \dots \textcircled{2} \end{cases}$$

[解答]

$$\begin{array}{r} \textcircled{1} \quad 4x - 2y = 2 \\ -) \textcircled{2} \quad 4x + 3y = 1 \\ \hline \quad \quad -5y = 1 \\ \quad \quad y = -\frac{1}{5} \end{array}$$

$$\begin{array}{l} y = -\frac{1}{5} \text{を}\textcircled{1}\text{に代入} \\ 4x + \frac{2}{5} = 2 \\ 20x + 2 = 10 \\ 20x = 8 \\ x = \frac{2}{5} \end{array}$$

$$\text{答え} \begin{cases} x = \frac{2}{5} \\ y = -\frac{1}{5} \end{cases}$$

# 「数が苦」を「数楽」に その20

2年 組 番 氏名

## 【2】代入法

代入法1〔①(単項式)を②に代入1(代入先に係数なし)〕

次の連立方程式を解きなさい。

$$(1) \begin{cases} x = y & \dots ① \\ x + y = 4 & \dots ② \end{cases}$$

[解答]①を②に代入

$$y + y = 4$$

$$2y = 4$$

$$y = 2$$

$y = 2$ を①に代入

$$x = 2$$

$$\text{答え} \begin{cases} x = 2 \\ y = 2 \end{cases}$$

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

[解答]①を②に代入

$$x + 2x = 3$$

$$3x = 3$$

$$x = 1$$

$x = 1$ を①に代入

$$y = 2$$

$$\text{答え} \begin{cases} x = 1 \\ y = 2 \end{cases}$$

$$(3) \begin{cases} y = -x & \dots ① \\ x - y = 12 & \dots ② \end{cases}$$

[解答]①を②に代入

$$x - (-x) = 12$$

$$x + x = 12$$

$$2x = 12$$

$$x = 6$$

$x = 6$ を①に代入

$$y = -6$$

$$\text{答え} \begin{cases} x = 6 \\ y = -6 \end{cases}$$

$$(4) \begin{cases} x = 3y & \dots ① \\ x + 2y = 10 & \dots ② \end{cases}$$

[解答]①を②に代入

$$3y + 2y = 10$$

$$5y = 10$$

$$y = 2$$

$y = 2$ を①に代入

$$x = 6$$

$$\text{答え} \begin{cases} x = 6 \\ y = 2 \end{cases}$$

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

[解答]①を②に代入

$$-3x + 4x = -2$$

$$x = -2$$

$x = -2$ を①に代入

$$y = -8$$

$$\text{答え} \begin{cases} x = -2 \\ y = -8 \end{cases}$$

$$(6) \begin{cases} x = -3y & \dots ① \\ -x + 3y = 18 & \dots ② \end{cases}$$

[解答]①を②に代入

$$-(-3y) + 3y = 18$$

$$3y + 3y = 18$$

$$6y = 18$$

$$y = 3$$

$y = 3$ を①に代入

$$x = -9$$

$$\text{答え} \begin{cases} x = -9 \\ y = 3 \end{cases}$$

$$(7) \begin{cases} y = 5x & \dots ① \\ x - y = 12 & \dots ② \end{cases}$$

[解答]①を②に代入

$$x - 5x = 12$$

$$-4x = 12$$

$$x = -3$$

$x = -3$ を①に代入

$$y = -15$$

$$\text{答え} \begin{cases} x = -3 \\ y = -15 \end{cases}$$

$$(8) \begin{cases} x = -\frac{5}{3}y & \dots ① \\ x - \frac{1}{3}y = 8 & \dots ② \end{cases}$$

[解答]①を②に代入

$$-\frac{5}{3}y - \frac{1}{3}y = 8$$

$$-\frac{6}{3}y = 8$$

$$-2y = 8$$

$$y = -4$$

$y = -4$ を①に代入

$$x = -\frac{5}{3} \times (-4)$$

$$x = \frac{20}{3}$$

$$\text{答え} \begin{cases} x = \frac{20}{3} \\ y = -4 \end{cases}$$

# 「数が苦」を「数楽」に その21

2年 組 番 氏名

## 【2】代入法

代入法2〔①(単項式)を②に代入2(代入先に係数有り)〕

次の連立方程式を解きなさい。

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

[解答]①を②に代入

$$\begin{aligned} 3y + y &= 4 \\ 4y &= 4 \\ y &= 1 \\ y = 1 \text{を}\textcircled{1}\text{に代入} \\ x &= 1 \end{aligned}$$

$$\text{答え} \begin{cases} x = 1 \\ y = 1 \end{cases}$$

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

[解答]①を②に代入

$$\begin{aligned} x - 4x &= 3 \\ -3x &= 3 \\ x &= -1 \\ x = -1 \text{を}\textcircled{1}\text{に代入} \\ y &= -2 \end{aligned}$$

$$\text{答え} \begin{cases} x = -1 \\ y = -2 \end{cases}$$

$$(3) \begin{cases} y = -x & \dots \textcircled{1} \\ x - 3y = 12 & \dots \textcircled{2} \end{cases}$$

[解答]①を②に代入

$$\begin{aligned} x - 3(-x) &= 12 \\ x + 3x &= 12 \\ 4x &= 12 \\ x &= 3 \\ x = 3 \text{を}\textcircled{1}\text{に代入} \\ y &= -3 \end{aligned}$$

$$\text{答え} \begin{cases} x = 3 \\ y = -3 \end{cases}$$

$$(4) \begin{cases} x = 3y & \dots \textcircled{1} \\ -3x + 2y = 14 & \dots \textcircled{2} \end{cases}$$

[解答]①を②に代入

$$\begin{aligned} -3 \times 3y + 2y &= 14 \\ -9y + 2y &= 14 \\ -7y &= 14 \\ y &= -2 \\ y = -2 \text{を}\textcircled{1}\text{に代入} \\ x &= -6 \end{aligned}$$

$$\text{答え} \begin{cases} x = -6 \\ y = -2 \end{cases}$$

$$(5) \begin{cases} y = 4x & \dots \textcircled{1} \\ -3x + 2y = -10 & \dots \textcircled{2} \end{cases}$$

[解答]①を②に代入

$$\begin{aligned} -3x + 2 \times 4x &= -10 \\ -3x + 8x &= -10 \\ 5x &= -10 \\ x &= -2 \\ x = -2 \text{を}\textcircled{1}\text{に代入} \\ y &= -8 \end{aligned}$$

$$\text{答え} \begin{cases} x = -2 \\ y = -8 \end{cases}$$

$$(6) \begin{cases} x = -3y & \dots \textcircled{1} \\ -2x + 3y = 18 & \dots \textcircled{2} \end{cases}$$

[解答]①を②に代入

$$\begin{aligned} -2(-3y) + 3y &= 18 \\ 6y + 3y &= 18 \\ 9y &= 18 \\ y &= 2 \\ y = 2 \text{を}\textcircled{1}\text{に代入} \\ x &= -6 \end{aligned}$$

$$\text{答え} \begin{cases} x = -6 \\ y = 2 \end{cases}$$

$$(7) \begin{cases} y = 5x & \dots \textcircled{1} \\ 4x - 2y = 12 & \dots \textcircled{2} \end{cases}$$

[解答]①を②に代入

$$\begin{aligned} 4x - 2 \times 5x &= 12 \\ 4x - 10x &= 12 \\ -6x &= 12 \\ x &= -2 \\ x = -2 \text{を}\textcircled{1}\text{に代入} \\ y &= -10 \end{aligned}$$

$$\text{答え} \begin{cases} x = -2 \\ y = -10 \end{cases}$$

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

[解答]①を②に代入

$$\begin{aligned} 6 \times \left(-\frac{5}{3}y\right) + 2y &= 8 \\ -10y + 2y &= 8 \\ -8y &= 8 \\ y &= -1 \end{aligned}$$

$y = -1$ を①に代入

$$\begin{aligned} x &= -\frac{5}{3} \times (-1) \\ x &= \frac{5}{3} \end{aligned}$$

$$\text{答え} \begin{cases} x = \frac{5}{3} \\ y = -1 \end{cases}$$



# 「数が苦」を「数楽」に その22

2年 組 番 氏名

## 【2】代入法

代入法3 [ ①(多項式)を②に代入1(代入先に係数無し) ]

次の連立方程式を解きなさい。

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

[解答]①を②に代入

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

$$x - 2x - 3 = 2$$

$$-x = 5$$

$$x = -5$$

$$x = -5 \text{を①に代入}$$

$$y = -10 + 3$$

$$y = -7$$

$$\text{答え} \begin{cases} x = -5 \\ y = -7 \end{cases}$$

$$(3) \begin{cases} x = 3y - 12 \cdots ① \\ x + 7y = -2 \cdots ② \end{cases}$$

[解答]①を②に代入

$$3y - 12 + 7y = -2$$

$$10y = 10$$

$$y = 1$$

$$y = 1 \text{を①に代入}$$

$$x = 3 - 12$$

$$x = -9$$

$$\text{答え} \begin{cases} x = -9 \\ y = 1 \end{cases}$$

$$(5) \begin{cases} y = -4x + 9 \cdots ① \\ 3x + y = 1 \cdots ② \end{cases}$$

[解答]①を②に代入

$$3x - 4x + 9 = 1$$

$$-x = -8$$

$$x = 8$$

$$x = 8 \text{を①に代入}$$

$$y = -32 + 9$$

$$y = -23$$

$$\text{答え} \begin{cases} x = 8 \\ y = -23 \end{cases}$$

$$(7) \begin{cases} 2x = y + 3 \cdots ① \\ 2x - 5y = -17 \cdots ② \end{cases}$$

[解答]①を②に代入

$$y + 3 - 5y = -17$$

$$-4y = -20$$

$$y = 5$$

$$x = 5 \text{を①に代入}$$

$$2x = 5 + 3$$

$$2x = 8$$

$$x = 4$$

$$\text{答え} \begin{cases} x = 4 \\ y = 5 \end{cases}$$

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

[解答]①を②に代入

$$2x + x - 4 = 5$$

$$3x = 9$$

$$x = 3$$

$$x = 3 \text{を①に代入}$$

$$y = 3 - 4$$

$$y = -1$$

$$\text{答え} \begin{cases} x = 3 \\ y = -1 \end{cases}$$

$$(4) \begin{cases} x = 5y - 8 \cdots ① \\ -x + 2y = -7 \cdots ② \end{cases}$$

[解答]①を②に代入

$$-(5y - 8) + 2y = -7$$

$$-5y + 8 + 2y = -7$$

$$-3y = -15$$

$$y = 5$$

$$y = 5 \text{を①に代入}$$

$$x = 25 - 8$$

$$x = 17$$

$$\text{答え} \begin{cases} x = 17 \\ y = 5 \end{cases}$$

$$(6) \begin{cases} x = 3y - 2 \cdots ① \\ -x - y = 18 \cdots ② \end{cases}$$

[解答]①を②に代入

$$-(3y - 2) - y = 18$$

$$-3y + 2 - y = 18$$

$$-4y = 16$$

$$y = -4$$

$$y = -4 \text{を①に代入}$$

$$x = -12 - 2$$

$$x = -14$$

$$\text{答え} \begin{cases} x = -14 \\ y = -4 \end{cases}$$

$$(8) \begin{cases} 3x = 2y - 6 \cdots ① \\ 3x - 6y = -8 \cdots ② \end{cases}$$

[解答]①を②に代入

$$2y - 6 - 6y = -8$$

$$-4y = -2$$

$$y = \frac{1}{2}$$

$$y = \frac{1}{2} \text{を①に代入}$$

$$3x = 1 - 6$$

$$3x = -5$$

$$x = -\frac{5}{3}$$

$$\text{答え} \begin{cases} x = -\frac{5}{3} \\ y = \frac{1}{2} \end{cases}$$

# 「数が苦」を「数楽」に その23

2年 組 番 氏名

## 【2】代入法

代入法4〔①(多項式)を②に代入2(代入先に係数有り)〕

次の連立方程式を解きなさい。

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

【解答】①を②に代入

$$\begin{aligned} x - 3(2x + 3) &= 1 \\ x - 6x - 9 &= 1 \\ -5x &= 10 \\ x &= -2 \end{aligned}$$

$x = -2$ を①に代入

$$\begin{aligned} y &= -4 + 3 \\ y &= -1 \end{aligned}$$

$$\text{答え} \begin{cases} x = -2 \\ y = -1 \end{cases}$$

$$(3) \begin{cases} x = 3y - 12 \cdots ① \\ -2x + 7y = 3 \cdots ② \end{cases}$$

【解答】①を②に代入

$$\begin{aligned} -2(3y - 12) + 7y &= 3 \\ -6y + 24 + 7y &= 3 \\ y &= -21 \end{aligned}$$

$y = -21$ を①に代入

$$\begin{aligned} x &= -63 - 12 \\ x &= -75 \end{aligned}$$

$$\text{答え} \begin{cases} x = -75 \\ y = -21 \end{cases}$$

$$(5) \begin{cases} y = -4x + 9 \cdots ① \\ 3x + 5y = 11 \cdots ② \end{cases}$$

【解答】①を②に代入

$$\begin{aligned} 3x + 5(-4x + 9) &= 11 \\ 3x - 20x + 45 &= 11 \\ -17x &= -34 \\ x &= 2 \end{aligned}$$

$x = 2$ を①に代入

$$\begin{aligned} y &= -8 + 9 \\ y &= 1 \end{aligned}$$

$$\text{答え} \begin{cases} x = 2 \\ y = 1 \end{cases}$$

$$(7) \begin{cases} 2x = y + 3 \cdots ① \\ 4x - 5y = -15 \cdots ② \end{cases}$$

【解答】①を②に代入

$$\begin{aligned} 2(y + 3) - 5y &= -15 \\ 2y + 6 - 5y &= -15 \\ -3y &= -21 \\ y &= 7 \end{aligned}$$

$y = 7$ を①に代入

$$\begin{aligned} 2x &= 7 + 3 \\ 2x &= 10 \\ x &= 5 \end{aligned}$$

$$\text{答え} \begin{cases} x = 5 \\ y = 7 \end{cases}$$

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

【解答】①を②に代入

$$\begin{aligned} 2x + 3(x - 5) &= 5 \\ 2x + 3x - 15 &= 5 \\ 5x &= 20 \\ x &= 4 \end{aligned}$$

$x = 4$ を①に代入

$$\begin{aligned} y &= 4 - 5 \\ y &= -1 \end{aligned}$$

$$\text{答え} \begin{cases} x = 4 \\ y = -1 \end{cases}$$

$$(4) \begin{cases} x = 5y - 8 \cdots ① \\ 4x + 2y = -10 \cdots ② \end{cases}$$

【解答】①を②に代入

$$\begin{aligned} 4(5y - 8) + 2y &= -10 \\ 20y - 32 + 2y &= -10 \\ 22y &= 22 \\ y &= 1 \end{aligned}$$

$y = 1$ を①に代入

$$\begin{aligned} x &= 5 - 8 \\ x &= -3 \end{aligned}$$

$$\text{答え} \begin{cases} x = -3 \\ y = 1 \end{cases}$$

$$(6) \begin{cases} x = 3y - 2 \cdots ① \\ -2x - y = 18 \cdots ② \end{cases}$$

【解答】①を②に代入

$$\begin{aligned} -2(3y - 2) - y &= 18 \\ -6y + 4 - y &= 18 \\ -7y &= 14 \\ y &= -2 \end{aligned}$$

$y = -2$ を①に代入

$$\begin{aligned} x &= -6 - 2 \\ x &= -8 \end{aligned}$$

$$\text{答え} \begin{cases} x = -8 \\ y = -2 \end{cases}$$

$$(8) \begin{cases} 3x = 2y - 6 \cdots ① \\ -9x - 6y = 6 \cdots ② \end{cases}$$

【解答】①を②に代入

$$\begin{aligned} -3(2y - 6) - 6y &= 6 \\ -6y + 18 - 6y &= 6 \\ -12y &= -12 \\ y &= 1 \end{aligned}$$

$y = 1$ を①に代入

$$\begin{aligned} 3x &= 2 - 6 \\ 3x &= -4 \\ x &= -\frac{4}{3} \end{aligned}$$

$$\text{答え} \begin{cases} x = -\frac{4}{3} \\ y = 1 \end{cases}$$

# 「数が苦」を「数楽」に その24

2年 組 番 氏名

## 【2】代入法

代入法5 [ ①×aを②に代入 ]

次の連立方程式を解きなさい。

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

[解答]①×2  $4y = 4x + 8$

これを②に代入

$$x - (4x + 8) = 1$$

$$x - 4x - 8 = 1$$

$$-3x = 9$$

$$x = -3$$

$x = -3$ を①に代入

$$2y = -6 + 4$$

$$2y = -2$$

$$y = -1$$

答え  $\begin{cases} x = -3 \\ y = -1 \end{cases}$

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

[解答]①×2  $6x = 2x - 8$

これを②に代入

$$2x + 2x - 8 = 4$$

$$4x = 12$$

$$x = 3$$

$$x = 3$$

$x = 3$ を①に代入

$$3y = 3 - 4$$

$$3y = -1$$

$$y = -\frac{1}{3}$$

答え  $\begin{cases} x = 3 \\ y = -\frac{1}{3} \end{cases}$

$$(3) \begin{cases} 5x = 3y - 12 \cdots ① \\ 15x - 6y = -39 \cdots ② \end{cases}$$

[解答]①×3  $15x = 9y - 36$

これを②に代入

$$9y - 36 - 6y = -39$$

$$3y = -3$$

$$y = -1$$

$y = -1$ を①に代入

$$5x = -3 - 12$$

$$5x = -15$$

$$x = -3$$

答え  $\begin{cases} x = -3 \\ y = -1 \end{cases}$

$$(4) \begin{cases} 2x = 5y - 8 \cdots ① \\ 6x + 2y = -7 \cdots ② \end{cases}$$

[解答]①×3  $6x = 15y - 24$

これを②に代入

$$15y - 24 + 2y = -7$$

$$17y = 17$$

$$y = 1$$

$y = 1$ を①に代入

$$2x = 5 - 8$$

$$2x = -3$$

$$x = -\frac{3}{2}$$

答え  $\begin{cases} x = -\frac{3}{2} \\ y = 1 \end{cases}$

$$(5) \begin{cases} 4y = -2x + 9 \cdots ① \\ 3x + 12y = 0 \cdots ② \end{cases}$$

[解答]①×3  $12y = -6x + 27$

これを②に代入

$$3x - 6x + 27 = 0$$

$$-3x = -27$$

$$x = 9$$

$x = 9$ を①に代入

$$4y = -18 + 9$$

$$4y = -9$$

$$y = -\frac{9}{4}$$

答え  $\begin{cases} x = 9 \\ y = -\frac{9}{4} \end{cases}$

$$(6) \begin{cases} -2x = 3y - 2 \cdots ① \\ 8x - 3y = 18 \cdots ② \end{cases}$$

[解答]①×(-4)  $8x = -12y + 8$

これを②に代入

$$-12y + 8 - 3y = 18$$

$$-15y = 10$$

$$y = -\frac{2}{3}$$

$y = -\frac{2}{3}$ を①に代入

$$-2x = 3 \times \left(-\frac{2}{3}\right) - 2$$

$$-2x = -2 - 2$$

$$-2x = -4$$

$$x = 2$$

答え  $\begin{cases} x = 2 \\ y = -\frac{2}{3} \end{cases}$

# 「数が苦」を「数楽」に その25

2年 組 番 氏名

## 【2】代入法

代入法6〔①を変形(移項)し、②に代入〕

次の連立方程式を解きなさい。

$$(1) \begin{cases} 2x + y = 8 & \dots ① \\ 5x + 2y = 9 & \dots ② \end{cases}$$

[解答]①より  $y = -2x + 8 \dots ①'$

①'を②に代入

$$5x + 2(-2x + 8) = 9$$

$$5x - 4x + 16 = 9$$

$$x = -7$$

$x = -7$ を①'に代入

$$y = 14 + 8$$

$$y = 22$$

$$\text{答え} \begin{cases} x = -7 \\ y = 22 \end{cases}$$

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

[解答] ①より  $x = 3y + 5 \dots ①'$

①'を②に代入

$$3(3y + 5) - 2y = -6$$

$$9y + 15 - 2y = -6$$

$$7y = -21$$

$$y = -3$$

$y = -3$ を①'に代入

$$x = -9 + 5$$

$$x = -4$$

$$\text{答え} \begin{cases} x = -4 \\ y = -3 \end{cases}$$

$$(3) \begin{cases} 4x - y = 10 & \dots ① \\ 3x - 7y = -5 & \dots ② \end{cases}$$

[解答] ①より  $y = 4x - 10 \dots ①'$

①'を②に代入

$$3x - 7(4x - 10) = -5$$

$$3x - 28x + 70 = -5$$

$$-25x = -75$$

$$x = 3$$

$x = 3$ を①'に代入

$$y = 12 - 10$$

$$y = 2$$

$$\text{答え} \begin{cases} x = 3 \\ y = 2 \end{cases}$$

$$(4) \begin{cases} x - 5y = -8 & \dots ① \\ -4x - 2y = 10 & \dots ② \end{cases}$$

[解答] ①より  $x = 5y - 8 \dots ①'$

①'を②に代入

$$-4(5y - 8) - 2y = 10$$

$$-20y + 32 - 2y = 10$$

$$-22y = -22$$

$$y = 1$$

$x = 1$ を①'に代入

$$x = 5 - 8$$

$$x = -3$$

$$\text{答え} \begin{cases} x = -3 \\ y = 1 \end{cases}$$

$$(5) \begin{cases} 3x - 6y = 12 & \dots ① \\ x + 4y = -2 & \dots ② \end{cases}$$

[解答] ②より  $x = -4y - 2 \dots ②'$

②'を①に代入

$$3(-4y - 2) - 6y = 12$$

$$-12y - 6 - 6y = 12$$

$$-18y = 18$$

$$y = -1$$

$y = -1$ を②'に代入

$$x = 4 - 2$$

$$x = 2$$

$$\text{答え} \begin{cases} x = 2 \\ y = -1 \end{cases}$$

$$(6) \begin{cases} -2x + 4y = -10 & \dots ① \\ 3x - 7y = 19 & \dots ② \end{cases}$$

[解答] ①より  $2x = 4y + 10$

両辺を2で割る  $x = 2y + 5 \dots ①'$

①'を②に代入

$$3(2y + 5) - 7y = 19$$

$$6y + 15 - 7y = 19$$

$$-y = 4$$

$$y = -4$$

$y = -4$ を①'に代入

$$x = -8 + 5$$

$$x = -3$$

$$\text{答え} \begin{cases} x = -3 \\ y = -4 \end{cases}$$

# 「数が苦」を「数楽」に その26

2年 組 番 氏名

## 【2】代入法

代入法6 [ {①を変形(移項)}×aを②に代入 ]

次の連立方程式を解きなさい。

$$(1) \begin{cases} x - 3y = 12 & \dots \textcircled{1} \\ 5x - 2y = 8 & \dots \textcircled{2} \end{cases}$$

[解答] ①より  $x = 3y + 12 \dots \textcircled{1}'$   
 $\textcircled{1}' \times 5$   $5x = 15y + 60$   
 これを②に代入

$$\begin{aligned} 15y + 60 - 2y &= 8 \\ 13y &= -52 \\ y &= -4 \\ y = -4 \text{を} \textcircled{1}' \text{に代入} \\ x &= -12 + 12 \\ x &= 0 \end{aligned}$$

$$\text{答え} \begin{cases} x = 0 \\ y = -4 \end{cases}$$

$$(2) \begin{cases} -5x + 2y = 3 & \dots \textcircled{1} \\ -3x - 8y = 11 & \dots \textcircled{2} \end{cases}$$

[解答] ①より  $2y = 5x + 3 \dots \textcircled{1}'$   
 $\textcircled{1}' \times 4$   $8y = 20x + 12$   
 これを②に代入

$$\begin{aligned} -3x - (20x + 12) &= 11 \\ -3x - 20x - 12 &= 11 \\ -23x &= 23 \\ x &= -1 \\ x = -1 \text{を} \textcircled{1}' \text{に代入} \\ 2y &= -5 + 3 \\ 2y &= -2 \\ y &= -1 \end{aligned}$$

$$\text{答え} \begin{cases} x = -1 \\ y = -1 \end{cases}$$

$$(3) \begin{cases} 4x - 3y = 10 & \dots \textcircled{1} \\ 3x + 9y = 15 & \dots \textcircled{2} \end{cases}$$

[解答] ①より  $3y = 4x - 10 \dots \textcircled{1}'$   
 $\textcircled{1}' \times 3$   $9y = 12x - 30$   
 これを②に代入

$$\begin{aligned} 3x + 12x - 30 &= 15 \\ 15x &= 45 \\ x &= 3 \\ x = 3 \text{を} \textcircled{1}' \text{に代入} \\ 3y &= 12 - 10 \\ 3y &= 2 \\ y &= \frac{2}{3} \end{aligned}$$

$$\text{答え} \begin{cases} x = 3 \\ y = \frac{2}{3} \end{cases}$$

$$(4) \begin{cases} 3x + 4y = -10 & \dots \textcircled{1} \\ -3x + 12y = 6 & \dots \textcircled{2} \end{cases}$$

[解答] ①より  $4y = -3x - 10 \dots \textcircled{1}'$   
 $\textcircled{1}' \times 3$   $12y = -9x - 30$   
 これを②に代入

$$\begin{aligned} -3x - 9x - 30 &= 6 \\ -12x &= 36 \\ x &= -3 \\ x = -3 \text{を} \textcircled{1}' \text{に代入} \\ 4y &= 9 - 10 \\ 4y &= -1 \\ y &= -\frac{1}{4} \end{aligned}$$

$$\text{答え} \begin{cases} x = -3 \\ y = -\frac{1}{4} \end{cases}$$

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

[解答] ①より  $2y = -3x + 6 \dots \textcircled{1}'$   
 $\textcircled{1}' \times 3$   $6y = -9x + 18$   
 これを②に代入

$$\begin{aligned} 2x - 9x + 18 &= -3 \\ -7x &= -21 \\ x &= 3 \\ x = 3 \text{を} \textcircled{1}' \text{に代入} \\ 2y &= -9 + 6 \\ 2y &= -3 \\ y &= -\frac{3}{2} \end{aligned}$$

$$\text{答え} \begin{cases} x = 3 \\ y = -\frac{3}{2} \end{cases}$$

$$(6) \begin{cases} 2x + 3y = 4 & \dots \textcircled{1} \\ 3x + 9y = 18 & \dots \textcircled{2} \end{cases}$$

[解答] ①より  $3y = -2x + 4 \dots \textcircled{1}'$   
 $\textcircled{1}' \times 3$   $9y = -6x + 12$   
 これを②に代入

$$\begin{aligned} 3x - 6x + 12 &= 18 \\ -3x &= 6 \\ x &= -2 \\ x = -2 \text{を} \textcircled{1}' \text{に代入} \\ 3y &= 4 + 4 \\ 3y &= 8 \\ y &= \frac{8}{3} \end{aligned}$$

$$\text{答え} \begin{cases} x = -2 \\ y = \frac{8}{3} \end{cases}$$

# 「数が苦」を「数楽」に その27

2年 組 番 氏名

## 【3】いろいろな連立方程式

いろいろな連立方程式1 [ 式の整理が必要な連立方程式 ]

次の連立方程式を解きなさい。

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

[解答]①より

$$x + 2y = 4 \cdots ①'$$

②より

$$2x - y = 3 \cdots ②'$$

$$①' \times 2 \quad 2x + 4y = 8$$

$$\underline{-)②' \quad 2x - y = 3}$$

$$5y = 5$$

$$y = 1$$

$y = 1$ を①'に代入

$$x + 2 = 4$$

$$x = 2$$

$$\text{答え} \begin{cases} x = 2 \\ y = 1 \end{cases}$$

$$(3) \begin{cases} 2x + 5y = 3 \cdots ① \\ 3x - 4y = 14 - 2y \cdots ② \end{cases}$$

[解答]②より

$$3x - 2y = 14 \cdots ②'$$

$$① \times 3 \quad 6x + 10y = 9$$

$$\underline{-)②' \times 2 \quad 6x - 4y = 28}$$

$$14y = -19$$

$$y = -\frac{19}{14}$$

$y = -\frac{19}{14}$ を①に代入

$$2x + 5 \left(-\frac{19}{14}\right) = 3$$

$$2x = 3 + \frac{95}{14}$$

$$x = \frac{33}{14}$$

$$\text{答え} \begin{cases} x = \frac{33}{14} \\ y = -\frac{19}{14} \end{cases}$$

$$(5) \begin{cases} 3x + 4y = 7 \cdots ① \\ x + 3y = 3x + 18 \cdots ② \end{cases}$$

[解答]②より

$$-2x + 3y = 18 \cdots ②'$$

$$① \times 2 \quad 6x + 8y = 14$$

$$\underline{+)②' \times 3 \quad -6x + 9y = 54}$$

$$17y = 68$$

$$y = 4$$

$y = 4$ を①に代入

$$3x + 16 = 7$$

$$3x = -9$$

$$x = -3$$

$$\text{答え} \begin{cases} x = -3 \\ y = 4 \end{cases}$$

$$(2) \begin{cases} 5x + 2y = 2x + 14 \cdots ① \\ 5x + 3 = 6y - 11 \cdots ② \end{cases}$$

[解答]①より

$$3x + 2y = 14 \cdots ①'$$

②より

$$5x - 6y = -14 \cdots ②'$$

$$①' \times 3 \quad 9x + 6y = 42$$

$$\underline{+)②' \quad 5x - 6y = -14}$$

$$14x = 28$$

$$x = 2$$

$x = 2$ を①'に代入

$$6 + 2y = 14$$

$$2y = 8$$

$$y = 4$$

$$\text{答え} \begin{cases} x = 2 \\ y = 4 \end{cases}$$

$$(4) \begin{cases} 5x - 3y = 9x + 2y + 5 \cdots ① \\ 5x + 4y = -x - 3y - 9 \cdots ② \end{cases}$$

[解答]①より

$$-4x - 5y = 5 \cdots ①'$$

②より

$$6x + 7y = -9 \cdots ②'$$

$$①' \times 3 \quad -12x - 15y = 15$$

$$\underline{+)②' \times 2 \quad 12x + 14y = -18}$$

$$-y = -3$$

$$y = 3$$

$y = 3$ を①'に代入

$$-4x - 15 = 5$$

$$-4x = 20$$

$$x = -5$$

$$\text{答え} \begin{cases} x = -5 \\ y = 3 \end{cases}$$

$$(6) \begin{cases} 10x - y - 24 = -x + 7y \cdots ① \\ 2x = 5y + 15 \cdots ② \end{cases}$$

[解答]①より

$$11x - 8y = 24 \cdots ①'$$

②より

$$2x - 5y = 15 \cdots ②'$$

$$①' \times 2 \quad 22x - 16y = 48$$

$$\underline{+)②' \times 11 \quad 22x - 55y = 165}$$

$$-39y = 213$$

$$y = -3$$

$y = -3$ を②'に代入

$$2x = -15 + 15$$

$$2x = 0$$

$$x = 0$$

$$\text{答え} \begin{cases} x = 0 \\ y = -3 \end{cases}$$

# 「数が苦」を「数楽」に その28

2年 組 番 氏名

## 【3】いろいろな連立方程式

いろいろな連立方程式2 [ カッコを含む連立方程式1 ]

次の連立方程式を解きなさい。

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

[解答]②より

$$\begin{aligned} x + 3y &= 3x + 18 \\ -2x + 3y &= 18 \quad \dots \textcircled{2}' \\ \textcircled{1} \times 2 & \quad 6x + 8y = 14 \\ +) \textcircled{2}' \times 3 & \quad -6x + 9y = 54 \\ \hline & \quad 17y = 68 \\ & \quad y = 4 \end{aligned}$$

$y = 4$ を①に代入

$$\begin{aligned} 3x + 16 &= 7 \\ 3x &= -9 \\ x &= -3 \end{aligned}$$

$$\text{答え} \begin{cases} x = -3 \\ y = 4 \end{cases}$$

$$(3) \begin{cases} 3(x - 2y) + 6 = y - 11 & \dots \textcircled{1} \\ 6x + 5y = 4 & \dots \textcircled{2} \end{cases}$$

[解答]①より

$$\begin{aligned} 3x - 6y + 6 &= y - 11 \\ 3x - 7y &= -17 \quad \dots \textcircled{1}' \\ \textcircled{1}' \times 2 & \quad 6x - 14y = -34 \\ -) \textcircled{2} & \quad 6x + 5y = 4 \\ \hline & \quad -19y = -38 \\ & \quad y = 2 \end{aligned}$$

$y = 2$ を②に代入

$$\begin{aligned} 6x + 10 &= 4 \\ 6x &= -6 \\ x &= -1 \end{aligned}$$

$$\text{答え} \begin{cases} x = -1 \\ y = 2 \end{cases}$$

$$(5) \begin{cases} 2x - y = -2 & \dots \textcircled{1} \\ 4y + 3(x - y) = 7 & \dots \textcircled{2} \end{cases}$$

[解答]②より

$$\begin{aligned} 4y + 3x - 3y &= 7 \\ 3x + y &= 7 \quad \dots \textcircled{2}' \\ \textcircled{1} & \quad 2x - y = -2 \\ +) \textcircled{2}' & \quad 3x + y = 7 \\ \hline 5x &= 5 \\ x &= 1 \end{aligned}$$

$x = 1$ を①に代入

$$\begin{aligned} 2 - y &= -2 \\ -y &= -4 \\ y &= 4 \end{aligned}$$

$$\text{答え} \begin{cases} x = 1 \\ y = 4 \end{cases}$$

$$(2) \begin{cases} x + 70 = 3(y - 70) & \dots \textcircled{1} \\ x - 10 = y + 10 & \dots \textcircled{2} \end{cases}$$

[解答]①より  $x + 70 = 3y - 210$

$$\begin{aligned} x - 3y &= -280 \quad \dots \textcircled{1}' \\ \textcircled{2} \text{より} & \quad x - y = 20 \\ & \quad x = y + 20 \quad \dots \textcircled{2}' \\ \textcircled{2}' \text{を} \textcircled{1}' \text{に代入} & \\ y + 20 - 3y &= -280 \\ -4y &= -300 \\ y &= 75 \end{aligned}$$

$y = 75$ を②'に代入

$$\begin{aligned} x &= 75 + 20 \\ x &= 95 \end{aligned}$$

$$\text{答え} \begin{cases} x = 95 \\ y = 75 \end{cases}$$

$$(4) \begin{cases} x - 2(y + 5) = 3 & \dots \textcircled{1} \\ y = 13 - 6x & \dots \textcircled{2} \end{cases}$$

[解答]①より  $x - 2y - 10 = 3$

$$\begin{aligned} x - 2y &= 13 \quad \dots \textcircled{1}' \\ \textcircled{2} \text{を} \textcircled{1}' \text{に代入} & \\ x - 2(13 - 6x) &= 13 \\ x - 26 + 12x &= 13 \\ 13x &= 39 \\ x &= 3 \end{aligned}$$

$x = 3$ を②に代入

$$\begin{aligned} y &= 13 - 18 \\ y &= -5 \end{aligned}$$

$$\text{答え} \begin{cases} x = 3 \\ y = -5 \end{cases}$$

$$(6) \begin{cases} 3(x + y) = 27 - 2y & \dots \textcircled{1} \\ 2x - 3y - 2 = 0 & \dots \textcircled{2} \end{cases}$$

[解答]①より  $3x + 3y = 27 - 2y$

$$\begin{aligned} 3x + 5y &= 27 \quad \dots \textcircled{1}' \\ \textcircled{2} \text{より} & \quad 2x - 3y = 2 \quad \dots \textcircled{2}' \\ \textcircled{1}' \times 2 & \quad 6x + 15y = 54 \\ -) \textcircled{2}' \times 3 & \quad 6x - 9y = 6 \\ \hline & \quad 24y = 48 \\ & \quad y = 2 \end{aligned}$$

$y = 2$ を②'に代入

$$\begin{aligned} 2x - 6 &= 2 \\ 2x &= 8 \\ x &= 4 \end{aligned}$$

$$\text{答え} \begin{cases} x = 4 \\ y = 2 \end{cases}$$

# 「数が苦」を「数楽」に その29

2年 組 番 氏名

## 【3】いろいろな連立方程式

いろいろな連立方程式3 [ カッコを含む連立方程式2 ]

次の連立方程式を解きなさい。

$$(1) \begin{cases} 2(x+y) = y+6 & \dots \textcircled{1} \\ 2(x+3) = 16+y & \dots \textcircled{2} \end{cases}$$

[解答]①より  $2x+2y=y+6$   
 $2x+y=6 \dots \textcircled{1}'$   
 ②より  $2x+6=16+y$   
 $2x-y=10 \dots \textcircled{2}'$

$$\begin{array}{r} \textcircled{1}' \quad 2x+y=6 \\ -)\textcircled{2}' \quad 2x-y=10 \\ \hline \quad \quad 2y=-4 \\ \quad \quad y=-2 \end{array}$$

$y=-2$ を①'に代入  
 $2x-2=6$   
 $2x=8$   
 $x=4$

$$\text{答え} \begin{cases} x=4 \\ y=-2 \end{cases}$$

$$(2) \begin{cases} 4(x+y) = 24 & \dots \textcircled{1} \\ 5x-2(3x+y) = -5 & \dots \textcircled{2} \end{cases}$$

[解答]①より  $4x+4y=24$   
 両辺を4で割る  $x+y=6 \dots \textcircled{1}'$   
 ②より  $5x-6x-2y=-5$   
 $-x-2y=-5 \dots \textcircled{2}'$

$$\begin{array}{r} \textcircled{1}' \quad x+y=6 \\ +)\textcircled{2}' \quad -x-2y=-5 \\ \hline \quad \quad -y=1 \\ \quad \quad y=-1 \end{array}$$

$y=-1$ を①'に代入  
 $x-1=6$   
 $x=7$

$$\text{答え} \begin{cases} x=7 \\ y=-1 \end{cases}$$

$$(3) \begin{cases} 2(3x-y) = 5x+y+11 & \dots \textcircled{1} \\ 2x-3(y+5) = 1 & \dots \textcircled{2} \end{cases}$$

[解答]①より  $6x-2y=5x+y+11$   
 $x-3y=11 \dots \textcircled{1}'$   
 ②より  $2x-3y-15=1$   
 $2x-3y=16 \dots \textcircled{2}'$

$$\begin{array}{r} \textcircled{1}' \quad x-3y=11 \\ -)\textcircled{2}' \quad 2x-3y=16 \\ \hline \quad \quad -x=-5 \\ \quad \quad x=5 \end{array}$$

$x=5$ を①'に代入  
 $5-3y=11$   
 $-3y=6$   
 $y=-2$

$$\text{答え} \begin{cases} x=5 \\ y=-2 \end{cases}$$

$$(4) \begin{cases} 5(x-y)-9 = y & \dots \textcircled{1} \\ x-5y = 3(x+y)-14 & \dots \textcircled{2} \end{cases}$$

[解答]①より  $5x-5y-9=y$   
 $5x-6y=9 \dots \textcircled{1}'$   
 ②より  $x-5y=3x+3y-14$   
 $-2x-8y=-14$   
 両辺を-2で割る  $x+4y=7 \dots \textcircled{2}'$

$$\begin{array}{r} \textcircled{1}' \quad 5x-6y=9 \\ -)\textcircled{2}' \times 5 \quad 5x+20y=35 \\ \hline \quad \quad -26y=-26 \\ \quad \quad y=1 \end{array}$$

$y=1$ を①'に代入  
 $5x-6=9$   
 $5x=15$   
 $x=3$

$$\text{答え} \begin{cases} x=3 \\ y=1 \end{cases}$$

$$(5) \begin{cases} y = 14 - 5(x+1) & \dots \textcircled{1} \\ 7(x-2) + 3y = -3 & \dots \textcircled{2} \end{cases}$$

[解答]①より  $y=14-5x-5$   
 $5x+y=9 \dots \textcircled{1}'$   
 ②より  $7x-14+3y=-3$   
 $7x+3y=11 \dots \textcircled{2}'$

$$\begin{array}{r} \textcircled{1}' \times 3 \quad 15x+3y=27 \\ -)\textcircled{2}' \quad \quad 7x+3y=11 \\ \hline \quad \quad 8x=16 \\ \quad \quad x=2 \end{array}$$

$x=2$ を①'に代入  
 $10+y=9$   
 $y=-1$

$$\text{答え} \begin{cases} x=2 \\ y=-1 \end{cases}$$

$$(6) \begin{cases} 3(3x-2y) = 5x+y & \dots \textcircled{1} \\ 4(3x-5y) = 16-3y & \dots \textcircled{2} \end{cases}$$

[解答]①より  $9x-6y=5x+y$   
 $4x-7y=0 \dots \textcircled{1}'$   
 ②より  $12x-20y=16-3y$   
 $12x-17y=16 \dots \textcircled{2}'$

$$\begin{array}{r} \textcircled{1}' \times 3 \quad 12x-21y=0 \\ -)\textcircled{2}' \quad \quad 12x-17y=16 \\ \hline \quad \quad -4y=-16 \\ \quad \quad y=4 \end{array}$$

$y=4$ を①'に代入  
 $4x-28=0$   
 $4x=28$   
 $x=7$

$$\text{答え} \begin{cases} x=7 \\ y=4 \end{cases}$$



# 「数が苦」を「数楽」に その30

2年 組 番 氏名

## 【3】いろいろな連立方程式

いろいろな連立方程式4 [ 係数が整数でない連立方程式1 ]

次の連立方程式を解きなさい。

$$(1) \begin{cases} x + y = 5 & \dots \textcircled{1} \\ 0.1x + 0.3y = 0.7 & \dots \textcircled{2} \end{cases}$$

[解答]②×10  $x + 3y = 7 \dots \textcircled{2}'$

$$\begin{array}{r} \textcircled{1} \quad x + y = 5 \\ -) \textcircled{2}' \quad x + 3y = 7 \\ \hline \quad \quad -2y = -2 \\ \quad \quad \quad y = 1 \end{array}$$

$y = 1$ を①に代入

$$\begin{array}{r} x + 1 = 5 \\ x = 4 \end{array}$$

$$\text{答え} \begin{cases} x = 4 \\ y = 1 \end{cases}$$

$$(2) \begin{cases} 0.5x - 0.2y = 1.1 & \dots \textcircled{1} \\ 3x - 2y = 1 & \dots \textcircled{2} \end{cases}$$

[解答]①×10  $5x - 2y = 11 \dots \textcircled{1}'$

$$\begin{array}{r} \textcircled{1}' \quad 5x - 2y = 11 \\ -) \textcircled{2} \quad 3x - 2y = 1 \\ \hline \quad \quad 2x = 10 \\ \quad \quad \quad x = 5 \end{array}$$

$x = 5$ を②に代入

$$\begin{array}{r} 15 - 2y = 1 \\ -2y = -14 \\ y = 7 \end{array}$$

$$\text{答え} \begin{cases} x = 5 \\ y = 7 \end{cases}$$

$$(3) \begin{cases} x - 3y = 12 & \dots \textcircled{1} \\ 0.8x + 0.3y = 1.5 & \dots \textcircled{2} \end{cases}$$

[解答]②×10  $8x + 3y = 15 \dots \textcircled{2}'$

$$\begin{array}{r} \textcircled{1} \quad x - 3y = 12 \\ +) \textcircled{2}' \quad 8x + 3y = 15 \\ \hline \quad \quad 9x = 27 \\ \quad \quad \quad x = 3 \end{array}$$

$x = 3$ を①に代入

$$\begin{array}{r} 3 - 3y = 12 \\ -3y = 9 \\ y = -3 \end{array}$$

$$\text{答え} \begin{cases} x = 3 \\ y = -3 \end{cases}$$

$$(4) \begin{cases} 0.6x + 1.4y = 9 & \dots \textcircled{1} \\ x + 2y = 14 & \dots \textcircled{2} \end{cases}$$

[解答]①×10  $6x + 14y = 90 \dots \textcircled{1}'$

$$\begin{array}{r} \textcircled{1}' \quad 6x + 14y = 90 \\ -) \textcircled{2}' \times 6 \quad 6x + 12y = 84 \\ \hline \quad \quad 2y = 6 \\ \quad \quad \quad y = 3 \end{array}$$

$y = 3$ を②に代入

$$\begin{array}{r} x + 6 = 14 \\ x = 8 \end{array}$$

$$\text{答え} \begin{cases} x = 8 \\ y = 3 \end{cases}$$

$$(5) \begin{cases} 0.09x + 0.2y = 0.05 & \dots \textcircled{1} \\ 4x + 5y = 10 & \dots \textcircled{2} \end{cases}$$

[解答]①×100  $9x + 20y = 5 \dots \textcircled{1}'$

$$\begin{array}{r} \textcircled{1}' \quad 9x + 20y = 5 \\ -) \textcircled{2} \times 4 \quad 16x + 20y = 40 \\ \hline \quad \quad -7x = -35 \\ \quad \quad \quad x = 5 \end{array}$$

$x = 5$ を②に代入

$$\begin{array}{r} 20 + 5y = 10 \\ 5y = -10 \\ y = -2 \end{array}$$

$$\text{答え} \begin{cases} x = 5 \\ y = -2 \end{cases}$$

$$(6) \begin{cases} 0.7x - 0.2y = 3 & \dots \textcircled{1} \\ 1.4x - 0.5y = 4 & \dots \textcircled{2} \end{cases}$$

[解答]①×10  $7x - 2y = 30 \dots \textcircled{1}'$

②×10  $14x - 5y = 40 \dots \textcircled{2}'$

$$\begin{array}{r} \textcircled{1}' \times 2 \quad 14x - 4y = 60 \\ -) \textcircled{2}' \quad 14x - 5y = 40 \\ \hline \quad \quad \quad y = 20 \end{array}$$

$y = 20$ を①'に代入

$$\begin{array}{r} 7x - 40 = 30 \\ 7x = 70 \\ x = 10 \end{array}$$

$$\text{答え} \begin{cases} x = 10 \\ y = 20 \end{cases}$$

# 「数が苦」を「数楽」に その31

2年 組 番 氏名

## 【3】いろいろな連立方程式

いろいろな連立方程式5 [ 係数が整数でない連立方程式2 ]

次の連立方程式を解きなさい。

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

[解答]

$$② \times 4 \quad 2x + y = 8 \cdots ②'$$

$$① \times 2 \quad 2x + 4y = 2$$

$$\underline{-)②'} \quad 2x + y = 8$$

$$3y = -6$$

$$y = -2$$

$y = -2$ を①に代入

$$x - 4 = 1$$

$$x = 5$$

$$\text{答え} \begin{cases} x = 5 \\ y = -2 \end{cases}$$

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

[解答]

$$① \times 10 \quad 2x + 5y = 30 \cdots ①'$$

$$①' \quad 2x + 5y = 30$$

$$\underline{-)② \times 2} \quad 2x - 2y = 2$$

$$7y = 28$$

$$y = 4$$

$y = 4$ を②に代入

$$x - 4 = 1$$

$$x = 5$$

$$\text{答え} \begin{cases} x = 5 \\ y = 4 \end{cases}$$

$$(3) \begin{cases} \frac{2}{3}x - \frac{1}{2}y = 1 \cdots ① \\ -7x + 6y = -15 \cdots ② \end{cases}$$

[解答]

$$① \times 6 \quad 4x - 3y = 6 \cdots ①'$$

$$①' \times 2 \quad 8x - 6y = 12$$

$$\underline{+)②} \quad -7x + 6y = -15$$

$$x = -3$$

$x = -3$ を①'に代入

$$-12 - 3y = 6$$

$$-3y = 18$$

$$y = -6$$

$$\text{答え} \begin{cases} x = -3 \\ y = -6 \end{cases}$$

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

[解答]

$$① \times 2 \quad x + y = 6 \cdots ①'$$

$$①' \quad x + y = 6$$

$$\underline{+)②} \quad x - y = 4$$

$$2x = 10$$

$$x = 5$$

$x = 5$ を①'に代入

$$5 + y = 6$$

$$y = 1$$

$$\text{答え} \begin{cases} x = 5 \\ y = 1 \end{cases}$$

$$(5) \begin{cases} \frac{x-4}{3} = \frac{y-1}{2} \cdots ① \\ 5x - 2y = 7 \cdots ② \end{cases}$$

[解答]

$$① \times 6 \quad 2(x-4) = 3(y-1)$$

$$2x - 8 = 3y - 3$$

$$2x - 3y = 5 \cdots ①'$$

$$①' \times 2 \quad 4x - 6y = 10$$

$$\underline{-)② \times 3} \quad 15x - 6y = 21$$

$$-11x = -11$$

$$x = 1$$

$x = 1$ を①'に代入

$$2 - 3y = 5$$

$$-3y = 3$$

$$y = -1$$

$$\text{答え} \begin{cases} x = 1 \\ y = -1 \end{cases}$$

$$(6) \begin{cases} \frac{3x+2y}{2} - \frac{x-y}{2} = 0 \cdots ① \\ \frac{4}{3}x + 7y = \frac{5}{3} \cdots ② \end{cases}$$

[解答]

$$① \times 12 \quad 2(3x+2y) - 3(x-y) = 0$$

$$6x + 4y - 3x + 3y = 0$$

$$3x + 7y = 0 \cdots ①'$$

$$② \times 3 \quad 4x + 21y = 5 \cdots ②'$$

$$①' \times 3 \quad 9x + 21y = 0$$

$$\underline{-)② \times 3} \quad 4x + 21y = 5$$

$$5x = -5$$

$$x = -1$$

$x = -1$ を①'に代入

$$-3 + 7y = 0$$

$$-7y = 3$$

$$y = -\frac{3}{7}$$

$$\text{答え} \begin{cases} x = -1 \\ y = -\frac{3}{7} \end{cases}$$

# 「数が苦」を「数楽」に その32

2年 組 番 氏名

## 【3】いろいろな連立方程式

いろいろな連立方程式7 [ A=B=C の形の方程式 ]

次の連立方程式を解きなさい。

(1)  $4x + 5y = 3x + 2y = 14$

[解答]  $4x + 5y = 14 \cdots \textcircled{1}$

$3x + 2y = 14 \cdots \textcircled{2}$

$\textcircled{1} \times 3 \quad 12x + 15y = 42$

$-\textcircled{2} \times 4 \quad 12x + 8y = 56$

$7y = -14$

$y = -2$

$y = -2$ を $\textcircled{2}$ に代入

$3x - 4 = 14$

$3x = 18$

$x = 6$

答え  $\begin{cases} x = 6 \\ y = -2 \end{cases}$

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

[解答]  $x + y - 2 = 5$

$x + y = 7 \cdots \textcircled{1}$

$-x + 3y = 5 \cdots \textcircled{2}$

$\textcircled{1} \quad x + y = 7$

$+\textcircled{2} \quad -x + 3y = 5$

$4y = 12$

$y = 3$

$y = 3$ を $\textcircled{1}$ に代入

$x + 3 = 7$

$x = 4$

答え  $\begin{cases} x = 4 \\ y = 3 \end{cases}$

(3)  $4x + 3y = 3x - y - 5 = x - 2y - 1$

[解答]  $4x + 3y = x - 2y - 1$

$3x + 5y = -1 \cdots \textcircled{1}$

$3x - y - 5 = x - 2y - 1$

$2x + y = 4 \cdots \textcircled{2}$

$\textcircled{1} \quad 3x + 5y = -1$

$-\textcircled{2} \quad 10x + 5y = 20$

$-7x = -21$

$x = 3$

$x = 3$ を $\textcircled{2}$ に代入

$6 + y = 4$

$y = -2$

答え  $\begin{cases} x = 3 \\ y = -2 \end{cases}$

(4)  $3x - y = 7x + y = x + 2y + 8$

[解答]  $3x - y = x + 2y + 8$

$2x - 3y = 8 \cdots \textcircled{1}$

$7x + y = x + 2y + 8$

$6x - y = 8 \cdots \textcircled{2}$

$\textcircled{1} \times 3 \quad 6x - 9y = 24$

$-\textcircled{2} \quad 6x - y = 8$

$-8y = 16$

$y = -2$

$y = -2$ を $\textcircled{1}$ に代入

$2x + 6 = 8$

$2x = 2$

$x = 1$

答え  $\begin{cases} x = 1 \\ y = -2 \end{cases}$

(5)  $2x - y - 2 = x + 4 = 2x - 8 + 2y$

[解答]  $2x - y - 2 = 2x - 8 + 2y$

$-3y = -6$

$y = 2$

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

$-x - 2y = -12 \cdots \textcircled{1}$

$\textcircled{1}$ に $y = 2$ を代入

$-x - 4 = -12$

$-x = -8$

$x = 8$

答え  $\begin{cases} x = 8 \\ y = 2 \end{cases}$

(6)  $x - y - 3 = 2x - y = 3x - 2y - 9$

[解答]  $x - y - 3 = 3x - 2y - 9$

$-2x + y = -6 \cdots \textcircled{1}$

$2x - y = 3x - 2y - 9$

$-x + y = -9 \cdots \textcircled{2}$

$\textcircled{1} \quad -2x + y = -6$

$-\textcircled{2} \quad -x + y = -9$

$-x = 3$

$x = -3$

$x = -3$ を $\textcircled{1}$ に代入

$6 + y = -6$

$y = -12$

答え  $\begin{cases} x = -3 \\ y = -12 \end{cases}$