

1 次の方程式を解きなさい。

(1)  $2x - y = 3x + 2y = -21$

(2)  $2x + y = -2x + 3y = -12$

(3)  $-5x + 4y = 2x + 5y - 40 = -41$

(4)  $5x - 5y = -11y - 33 = 3x + 9$

1 次の方程式を解きなさい。

(1)  $2x - y = 3x + 2y = -21$

$$\begin{cases} 2x - y = -21 & \dots\dots \textcircled{1} \\ 3x + 2y = -21 & \dots\dots \textcircled{2} \end{cases}$$

①と②の連立方程式を解くと、

①×2             $4x - 2y = -42$

②             $+ ) 3x + 2y = -21$   


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 $7x = -63$   
 $x = -9$

$x = -9$ を①に代入すると、

$2 \times (-9) - y = -21$

$-y = -3$

$y = 3$

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

(3)  $-5x + 4y = 2x + 5y - 31 = -41$

$$\begin{cases} -5x + 4y = -41 & \dots\dots \textcircled{1} \\ 2x + 5y - 31 = -41 & \dots\dots \textcircled{2} \end{cases}$$

②の式を整理すると、

$2x + 5y = -10$              $\dots\dots \textcircled{3}$

①と③の連立方程式を解くと、

①×2             $-10x + 8y = -82$

③×5             $+ ) 10x + 25y = -50$   


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 $33y = -132$   
 $y = -4$

$y = -4$ を③に代入すると、

$2x + 5 \times (-4) = -10$

$2x = 10$

$x = 5$

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

(2)  $2x + y = -2x + 3y = -12$

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

①と②の連立方程式を解くと、

①             $2x + y = -12$

②             $+ ) -2x + 3y = -12$   


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 $4y = -24$   
 $y = -6$

$y = -6$ を①に代入すると、

$2x - 6 = -12$

$2x = -6$

$x = -3$

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

(4)  $5x - 5y = -11y - 33 = 3x + 9$

$$\begin{cases} 5x - 5y = 3x + 9 & \dots\dots \textcircled{1} \\ -11y - 33 = 3x + 9 & \dots\dots \textcircled{2} \end{cases}$$

①と②の式を整理すると、

$2x - 5y = 9$              $\dots\dots \textcircled{3}$

$-3x - 11y = 42$              $\dots\dots \textcircled{4}$

③と④の連立方程式を解くと、

③×3             $6x - 15y = 27$

④×2             $+ ) -6x - 22y = 84$   


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 $-37y = 111$   
 $y = -3$

$y = -3$ を③に代入すると、

$2x - 5 \times (-3) = 9$

$2x = -6$

$x = -3$

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