

等式の性質（足し算・引き算）

例題 等式の性質を使って次の方程式を解け。

(1) $x - 12 = 8$

答

(2) $x + 4 = 13$

答

練習A 等式の性質を使って次の方程式を解け。

(1) $x - 3 = 6$

答

(4) $x - 7 = 9$

答

(7) $x + 7 = 9$

答

(2) $x - 2 = -4$

答

(5) $x - 12 = 3$

答

(8) $x + 14 = 0$

答

(3) $x + 7 = 2$

答

(6) $x - 8 = -8$

答

(9) $x + 2 = -1$

答

方程式の計算（かけ算・割り算）

例題 等式の性質を使って次の方程式を解け。

(1) $-\frac{2}{5}x=3$

答

(2) $-6x=9$

答

練習 等式の性質を使って次の方程式を解け。

(1) $\frac{1}{4}x=3$

答

(4) $2x=14$

答

(7) $\frac{1}{3}x=6$

答

(2) $\frac{3}{2}x=-9$

答

(5) $-5x=15$

答

(8) $-7x=-21$

答

(3) $\frac{1}{4}x=20$

答

(6) $3x=-12$

答

(9) $\frac{1}{5}x=-8$

答

方程式の計算（移項）

例題 次の方程式を解け。

(1) $4x+8=-12$

答

(2) $3x-7=-4$

答

(3) $-6-x=6$

答

練習A 次の方程式を解け。

(1) $6x-10=8$

答

(4) $-8x-5=7$

答

(7) $12+4x=12$

答

(2) $9x+2=-7$

答

(5) $24-6x=0$

答

(8) $-5x-12=3$

答

(3) $-x-4=4$

答

(6) $18-x=11$

答

(9) $-7-x=7$

答

分配法則で展開して計算

例題 次の方程式を解け。

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

答

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

答

(3) $x-3-(7x-1)=8+2x$

答

練習A 次の方程式を解け。

(1) $x+6=-3(2x+5)$

答

(3) $16-(5x-8)=19$

答

(5) $3x-2(x-5)=-12$

答

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

答

(4) $-13=6-2(3x-1)$

答

(6) $15-2(x-4)=3x+8$

答

方程式の計算（小数点）

例題 次の方程式を解け。

(1) $0.3x - 0.5 = 1.5 + 0.1x$

答

(2) $1.2x + 2 = x - 0.4$

答

(5) $0.15x - 0.02 = 0.1x$

答

練習A 次の方程式を解け。

(1) $0.3x + 0.4 = 0.1x + 1$

答

(3) $0.5 + 0.2x = 0.1 + 0.3x$

答

(3) $0.3 = 0.14 - 0.08x$

答

(2) $0.5x - 0.2 = 0.4x - 0.8$

答

(4) $0.5x - 2.6 = -2 + 0.3x$

答

(6) $0.02x - 0.15 = 0.05x$

答

方程式の計算（分数）

例題 次の方程式を解け。

(1) $2x - \frac{5}{4} = \frac{x}{3}$

答

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

答

練習9A 次の方程式を解け。

(1) $\frac{x}{5} - \frac{x}{3} = 2$

答

(2) $8 - \frac{5}{6}x = -2$

答

(3) $\frac{2}{3}x + \frac{4}{5} = \frac{2}{3} - \frac{2}{5}x$

答

(4) $\frac{5}{6} - \frac{3}{4}x = \frac{2}{3} - \frac{1}{2}x$

答

方程式の計算（分数②）

例題 次の方程式を解け。

(1) $\frac{5x+7}{2} + \frac{2x+5}{3} = 2$

答

(2) $x+2 - \frac{x+5}{3} = \frac{3}{4}$

答

練習A 次の方程式を解け。

(1) $\frac{2x-3}{5} - \frac{9x-7}{4} = 3$

答

(3) $\frac{3x-4}{8} = \frac{5x-14}{6}$

答

(2) $\frac{12-x}{3} = \frac{3x+3}{4}$

答

(4) $\frac{x-6}{2} = \frac{4x-14}{3}$

答

方程式の計算（分配法則・小数・分数混合）

例題11 次の方程式を解け。

(1) $0.2(x+4)-0.3(2x-1)=2$

答

(2) $\frac{2}{3}(2x-3)-\frac{1}{4}(x-1)=-5$

答

練習11A 次の方程式を解け。

(1) $0.2(x-5)-1.2(x-3)=-3.4$

答

(3) $\frac{2}{3}(x-6)-\frac{1}{6}(x-3)=2$

答

(2) $0.3(2x-3)+0.5(x+1)=-1.5$

答

(4) $\frac{3}{4}(2-3x)-\frac{1}{2}(5x+2)=-9$

答

等式の性質（足し算・引き算）

例題 等式の性質を使って次の方程式を解け。

(1) $x-12=8$

$$\begin{aligned}x-12+12 &= 8+12 \\ x &= 20\end{aligned}$$

答 $x=20$

(2) $x+4=13$

$$\begin{aligned}x+4-4 &= 13-4 \\ x &= 9\end{aligned}$$

答 $x=9$

練習A 等式の性質を使って次の方程式を解け。

(1) $x-3=6$

$$\begin{aligned}x-3+3 &= 6+3 \\ x &= 9\end{aligned}$$

答 $x=9$

(4) $x-7=9$

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

答 $x=16$

(7) $x+7=9$

$$\begin{aligned}x+7-7 &= 9-7 \\ x &= 2\end{aligned}$$

答 $x=2$

(2) $x-2=-4$

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

答 $x=-2$

(5) $x-12=3$

$$\begin{aligned}x-12+12 &= 3+12 \\ x &= 15\end{aligned}$$

答 $x=15$

(8) $x+14=0$

$$\begin{aligned}x+14-14 &= 0-14 \\ x &= -14\end{aligned}$$

答 $x=-14$

(3) $x+7=2$

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

答 $x=-5$

(6) $x-8=-8$

$$\begin{aligned}x-8+8 &= -8+8 \\ x &= 0\end{aligned}$$

答 $x=0$

(9) $x+2=-1$

$$\begin{aligned}x+2-2 &= -1-2 \\ x &= -3\end{aligned}$$

答 $x=-3$

方程式の計算（かけ算・割り算）

例題 等式の性質を使って次の方程式を解け。

(1) $-\frac{2}{5}x=3$

★

$$-\frac{1}{1} \frac{2}{5} x \times \left(-\frac{5}{2}\right) = 3 \times \left(-\frac{5}{2}\right)$$

$$x = -\frac{15}{2}$$

答 $x = -\frac{15}{2}$

(2) $-6x=9$

★

$$\frac{-1}{-6} \frac{6x}{1} = \frac{3}{-6}$$

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

答 $x = -\frac{3}{2}$

練習A 等式の性質を使って次の方程式を解け。

(1) $\frac{1}{4}x=3$

★

$$\frac{1}{1} \frac{1}{4} x \times 4^1 = 3 \times 4$$

$$x = 12$$

答 $x = 12$

(4) $2x=14$

★

$$\frac{1}{2} \frac{2x}{1} = \frac{3}{2} \frac{14}{2}$$

$$x = 7$$

答 $x = 7$

(7) $\frac{1}{3}x=6$

★

$$\frac{1}{1} \frac{1}{3} x \times 3^1 = 6 \times 3$$

$$x = 18$$

答 $x = 18$

(2) $\frac{3}{2}x=-9$

★

$$\frac{1}{1} \frac{3}{2} x \times \frac{2}{3} = -3 \times \frac{2}{3}$$

$$x = -6$$

答 $x = -6$

(5) $-5x=15$

★

$$\frac{-1}{-5} \frac{5x}{1} = \frac{3}{-5} \frac{15}{-5}$$

$$x = -3$$

答 $x = -3$

(8) $-7x=-21$

★

$$\frac{-1}{-7} \frac{7x}{1} = \frac{-3}{-7} \frac{-21}{-7}$$

$$x = 3$$

答 $x = 3$

(3) $\frac{1}{4}x=20$

★

$$\frac{1}{1} \frac{1}{4} x \times 4^1 = 20 \times 4$$

$$x = 80$$

答 $x = 80$

(6) $3x=-12$

★

$$\frac{1}{3} \frac{3x}{1} = \frac{-4}{3} \frac{-12}{3}$$

$$x = -4$$

答 $x = -4$

(9) $\frac{1}{5}x=-8$

★

$$\frac{1}{1} \frac{1}{5} x \times 5^1 = -8 \times 5$$

$$x = -40$$

答 $x = -40$

方程式の計算（移項）

例題 次の方程式を解け。

(1) $4x+8=-12$

★
 $4x=-12-8$
 $4x=-20$
 $\frac{1}{4}x = \frac{-20}{4}$
 $x=-5$

答 $x=-5$

(2) $3x-7=-4$

★
 $3x=-4+7$
 $3x=3$
 $\frac{1}{3}x = \frac{3}{3}$
 $x=1$

答 $x=1$

(3) $-6-x=6$

★
 $-x=6+6$
 $-x=12$
 $x=-12$

答 $x=-12$

練習A 次の方程式を解け。

(1) $6x-10=8$

★
 $6x=8+10$
 $6x=18$
 $\frac{1}{6}x = \frac{18}{6}$
 $x=3$

答 $x=3$

(4) $-8x-5=7$

★
 $-8x=7+5$
 $-8x=12$
 $\frac{-1}{8}x = \frac{12}{-8}$
 $x=-\frac{3}{2}$

答 $x=-\frac{3}{2}$

(7) $12+4x=12$

★
 $4x=12-12$
 $4x=0$
 $\frac{1}{4}x = \frac{0}{4}$
 $x=0$

答 $x=0$

(2) $9x+2=-7$

★
 $9x=-7-2$
 $9x=-9$
 $\frac{1}{9}x = \frac{-9}{9}$
 $x=-1$

答 $x=-1$

(5) $24-6x=0$

★
 $-6x=-24$
 $\frac{-1}{6}x = \frac{-24}{-6}$
 $x=4$

答 $x=4$

(8) $-5x-12=3$

★
 $-5x=3+12$
 $-5x=15$
 $\frac{-1}{5}x = \frac{15}{-5}$
 $x=-3$

答 $x=-3$

(3) $-x-4=4$

★
 $-x=4+4$
 $-x=8$
 $x=-8$

答 $x=-8$

(6) $18-x=11$

★
 $-x=11-18$
 $-x=-7$
 $x=7$

答 $x=7$

(9) $-7-x=7$

★
 $-x=7+7$
 $-x=14$
 $x=-14$

答 $x=-14$

分配法則で展開して計算

例題 次の方程式を解け。

(1) $15 = -3x + 9$

★
 $3x = 9 - 15$
 $3x = -6$
 $\frac{1 \cancel{3}x}{\cancel{3}_1} = \frac{-2 \cancel{6}}{\cancel{3}_1}$
 $x = -2$

答 $x = -2$

(2) $-4x + 6 = 5x$

★
 $-4x - 5x = -6$
 $-9x = -6$
 $\frac{-1 \cancel{9}x}{-\cancel{9}_1} = \frac{-2 \cancel{6}}{-\cancel{9}_3}$
 $x = \frac{2}{3}$

答 $x = \frac{2}{3}$

練習A 次の方程式を解け。

(1) $18 = 9 - 3x$

★
 $3x = 9 - 18$
 $3x = -9$
 $\frac{1 \cancel{3}x}{\cancel{3}_1} = \frac{-3 \cancel{9}}{\cancel{3}_1}$
 $x = -3$

答 $x = -3$

(2) $1 = 9 - 4x$

★
 $4x = 9 - 1$
 $4x = 8$
 $\frac{1 \cancel{4}x}{\cancel{4}_1} = \frac{2 \cancel{8}}{\cancel{4}_1}$
 $x = 2$

答 $x = 2$

(3) $-8 = 6 + 2x$

★
 $-2x = 6 + 8$
 $-2x = 14$
 $\frac{-1 \cancel{2}x}{-\cancel{2}_1} = \frac{7 \cancel{14}}{-\cancel{2}_1}$
 $x = -7$

答 $x = -7$

(4) $21 + 17x = 21$

★
 $17x = 21 - 21$
 $17x = 0$
 $\frac{1 \cancel{17}x}{\cancel{17}_1} = \frac{0}{\cancel{17}_1}$
 $x = 0$

答 $x = 0$

(5) $8 + 5x = 3x$

★
 $5x - 3x = -8$
 $2x = -8$
 $\frac{1 \cancel{2}x}{\cancel{2}_1} = \frac{-4 \cancel{8}}{\cancel{2}_1}$
 $x = -4$

答 $x = -4$

(6) $18 - 3x = 3x$

★
 $-3x - 3x = -18$
 $-6x = -18$
 $\frac{-1 \cancel{6}x}{-\cancel{6}_1} = \frac{-3 \cancel{18}}{-\cancel{6}_1}$
 $x = 3$

答 $x = 3$

(7) $20 + 2x = -2x$

★
 $2x + 2x = -20$
 $4x = -20$
 $\frac{1 \cancel{4}x}{\cancel{4}_1} = \frac{-5 \cancel{20}}{\cancel{4}_1}$
 $x = -5$

答 $x = -5$

(8) $5x - 17 = 6x$

★
 $5x - 6x = 17$
 $-x = 17$
 $x = -17$

答 $x = -17$

(9) $4x = 15 + x$

★
 $4x - x = 15$
 $3x = 15$
 $\frac{1 \cancel{3}x}{\cancel{3}_1} = \frac{5 \cancel{15}}{\cancel{3}_1}$
 $x = 5$

答 $x = 5$

方程式の計算（小数点）

例題 次の方程式を解け。

(1) $0.3x - 0.5 = 1.5 + 0.1x$

★

$$\begin{aligned} (0.3x - 0.5) \times 10 &= (1.5 + 0.1x) \times 10 \\ 0.3x \times 10 - 0.5 \times 10 &= 1.5x \times 10 + 0.1x \times 10 \\ 3x - 5 &= 15 + x \\ 3x - x &= 15 + 5 \\ 2x &= 20 \\ \frac{1}{2}x &= \frac{10}{2} \\ x &= 10 \end{aligned}$$

答 $x = 10$

(2) $1.2x + 2 = x - 0.4$

★

$$\begin{aligned} (1.2x + 2) \times 10 &= (x - 0.4) \times 10 \\ 1.2x \times 10 + 2 \times 10 &= x \times 10 - 0.4 \times 10 \\ 12x + 20 &= 10x - 4 \\ 12x - 10x &= -4 - 20 \\ 2x &= -24 \\ \frac{1}{2}x &= \frac{-24}{2} \\ x &= -12 \end{aligned}$$

答 $x = -12$

(5) $0.15x - 0.02 = 0.1x$

★

$$\begin{aligned} (0.15x - 0.02) \times 100 &= 0.1x \times 100 \\ 0.15x \times 100 - 0.02 \times 100 &= 0.1x \times 100 \\ 15x - 2 &= 10x \\ 15x - 10x &= 2 \\ 5x &= 2 \\ \frac{1}{5}x &= \frac{2}{5} \\ x &= \frac{2}{5} \end{aligned}$$

答 $x = \frac{2}{5}$

練習A 次の方程式を解け。

(1) $0.3x + 0.4 = 0.1x + 1$

★

$$\begin{aligned} (0.3x + 0.4) \times 10 &= (0.1x + 1) \times 10 \\ 0.3x \times 10 + 0.4 \times 10 &= 0.1x \times 10 + 1 \times 10 \\ 3x + 4 &= x + 10 \\ 3x - x &= 10 - 4 \\ 2x &= 6 \\ \frac{1}{2}x &= \frac{3}{2} \\ x &= 3 \end{aligned}$$

答 $x = 3$

(2) $0.5x - 0.2 = 0.4x - 0.8$

★

$$\begin{aligned} (0.5x - 0.2) \times 10 &= (0.4x - 0.8) \times 10 \\ 0.5x \times 10 - 0.2 \times 10 &= 0.4x \times 10 - 0.8 \times 10 \\ 5x - 2 &= 4x - 8 \\ 5x - 4x &= -8 + 2 \\ x &= -6 \end{aligned}$$

答 $x = -6$

(3) $0.5 + 0.2x = 0.1 + 0.3x$

★

$$\begin{aligned} (0.5 + 0.2x) \times 10 &= (0.1 + 0.3x) \times 10 \\ 0.5 \times 10 + 0.2x \times 10 &= 0.1 \times 10 + 0.3x \times 10 \\ 5 + 2x &= 1 + 3x \\ 2x - 3x &= 1 - 5 \\ -x &= -4 \\ x &= 4 \end{aligned}$$

答 $x = 4$

(4) $0.5x - 2.6 = -2 + 0.3x$

★

$$\begin{aligned} (0.5x - 2.6) \times 10 &= (-2 + 0.3x) \times 10 \\ 0.5x \times 10 - 2.6 \times 10 &= -2 \times 10 + 0.3x \times 10 \\ 5x - 26 &= -20 + 3x \\ 5x - 3x &= -20 + 26 \\ 2x &= 6 \\ \frac{1}{2}x &= \frac{3}{2} \\ x &= 3 \end{aligned}$$

答 $x = 3$

(3) $0.3 = 0.14 - 0.08x$

★

$$\begin{aligned} 0.3 \times 100 &= (0.14 - 0.08x) \times 100 \\ 0.3 \times 100 &= 0.14 \times 100 - 0.08 \times 100 \\ 30 &= 14 - 8x \\ 8x &= 14 - 30 \\ 8x &= -16 \\ \frac{1}{8}x &= \frac{-16}{8} \\ x &= -2 \end{aligned}$$

答 $x = -2$

(6) $0.02x - 0.15 = 0.05x$

★

$$\begin{aligned} (0.02x - 0.15) \times 100 &= 0.05x \times 100 \\ 0.02x \times 100 - 0.15 \times 100 &= 0.05x \times 100 \\ 2x - 15 &= 5x \\ 2x - 5x &= 15 \\ -3x &= 15 \\ \frac{-1}{3}x &= \frac{15}{-3} \\ x &= -5 \end{aligned}$$

答 $x = -5$

方程式の計算（分数）

例題 次の方程式を解け。

(1) $2x - \frac{5}{4} = \frac{x}{3}$

★

$$\begin{aligned} 2x \times 12 - \frac{5}{14} \times 12^3 &= \frac{x}{13} \times 12^4 \\ 24x - 15 &= 4x \\ 24x - 4x &= 15 \\ 20x &= 15 \\ \frac{120x}{201} &= \frac{315}{204} \\ x &= \frac{3}{4} \end{aligned}$$

答 $x = \frac{3}{4}$

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

★

$$\begin{aligned} \frac{x}{13} \times 12^4 - \frac{1}{12} \times 12^6 &= \frac{3}{14}x \times 12^3 + \frac{2}{13} \times 12^4 \\ 4x - 6 &= 9x + 8 \\ 4x - 9x &= 8 + 6 \\ -5x &= 14 \\ \frac{-15x}{-51} &= \frac{14}{-5} \\ x &= -\frac{14}{5} \end{aligned}$$

答 $x = -\frac{14}{5}$

練習A 次の方程式を解け。

(1) $\frac{x}{5} - \frac{x}{3} = 2$

★

$$\begin{aligned} \frac{x}{15} \times 15^3 - \frac{x}{13} \times 15^5 &= 2 \times 15 \\ 3x - 5x &= 30 \\ -2x &= 30 \\ \frac{-12x}{-21} &= \frac{1530}{-21} \\ x &= -15 \end{aligned}$$

答 $x = -15$

(2) $8 - \frac{5}{6}x = -2$

★

$$\begin{aligned} 8 \times 6 - \frac{5}{16}x \times 6^1 &= -2 \times 6 \\ 48 - 5x &= -12 \\ -5x &= -12 - 48 \\ \frac{-15x}{-51} &= \frac{-1200}{-51} \\ x &= 12 \end{aligned}$$

答 $x = 12$

(3) $\frac{2}{3}x + \frac{4}{5} = \frac{2}{3} - \frac{2}{5}x$

★

$$\begin{aligned} \frac{2}{13}x \times 15^5 + \frac{4}{15} \times 15^3 &= \frac{2}{13} \times 15^5 - \frac{2}{15}x \times 15^3 \\ 10x + 12 &= 10 - 6x \\ 10x + 6x &= 10 - 12 \\ 16x &= -2 \\ \frac{116x}{161} &= \frac{-12}{168} \\ x &= -\frac{1}{8} \end{aligned}$$

答 $x = -\frac{1}{8}$

(4) $\frac{5}{6} - \frac{3}{4}x = \frac{2}{3} - \frac{1}{2}x$

★

$$\begin{aligned} \frac{5}{16} \times 12^2 - \frac{3}{14}x \times 12^3 &= \frac{2}{13} \times 12^4 - \frac{1}{12}x \times 12^6 \\ 10 - 9x &= 8 - 6x \\ -9x + 6x &= 8 - 10 \\ -3x &= -2 \\ \frac{-13x}{-31} &= \frac{-2}{-3} \\ x &= \frac{2}{3} \end{aligned}$$

答 $x = \frac{2}{3}$

方程式の計算（分数②）

例題 次の方程式を解け。

$$(1) \frac{5x+7}{2} + \frac{2x+5}{3} = 2$$

★

$$\begin{aligned} \frac{\overset{3}{\cancel{6}}(5x+7)}{\underset{2_1}{\cancel{2}}} + \frac{\overset{2}{\cancel{6}}(2x+5)}{\underset{3_1}{\cancel{3}}} &= 2 \times 6 \\ 3(5x+7) + 2(2x+5) &= 12 \\ 15x+21+4x+10 &= 12 \\ 15x+4x &= 12-21-10 \\ 19x &= -19 \\ \frac{\overset{1}{\cancel{19}}x}{\underset{19_1}{\cancel{19}}} &= \frac{\overset{-1}{\cancel{19}}}{\underset{19_1}{\cancel{19}}} \\ x &= -1 \end{aligned}$$

答 $x = -1$

$$(2) x+2 - \frac{x+5}{3} = \frac{3}{4}$$

★

$$\begin{aligned} 12x+2 \times 12 - \frac{\overset{4}{\cancel{12}}(x+5)}{\underset{3_1}{\cancel{3}}} &= \frac{\overset{3}{\cancel{4}} \times \overset{3}{\cancel{12}}}{\underset{1_4}{\cancel{4}}} \\ 12x+24-4(x+5) &= 9 \\ 12x+24-4x-20 &= 9 \\ 12x-4x &= 9-24+20 \\ 8x &= 5 \\ \frac{\overset{1}{\cancel{8}}x}{\underset{8_1}{\cancel{8}}} &= \frac{5}{8} \\ x &= \frac{5}{8} \end{aligned}$$

答 $x = \frac{5}{8}$

練習A 次の方程式を解け。

$$(1) \frac{2x-3}{5} - \frac{9x-7}{4} = 3$$

★

$$\begin{aligned} \frac{\overset{4}{\cancel{20}}(2x-3)}{\underset{5_1}{\cancel{5}}} - \frac{\overset{5}{\cancel{20}}(9x-7)}{\underset{4_1}{\cancel{4}}} &= 3 \times 20 \\ 4(2x-3) - 5(9x-7) &= 60 \\ 8x-12-45x+35 &= 60 \\ 8x-45x &= 60+12-35 \\ -37x &= 37 \\ \frac{\overset{-1}{\cancel{37}}x}{\underset{-37_1}{\cancel{-37}}} &= \frac{\overset{1}{\cancel{37}}}{\underset{-37_1}{\cancel{-37}}} \\ x &= -1 \end{aligned}$$

答 $x = -1$

$$(2) \frac{12-x}{3} = \frac{3x+3}{4}$$

★

$$\begin{aligned} \frac{\overset{4}{\cancel{12}}(12-x)}{\underset{3_1}{\cancel{3}}} &= \frac{\overset{3}{\cancel{12}}(3x+3)}{\underset{4_1}{\cancel{4}}} \\ 4(12-x) &= 3(3x+3) \\ 48-4x &= 9x+9 \\ -4x-9x &= 9-48 \\ -13x &= -39 \\ \frac{\overset{-1}{\cancel{13}}x}{\underset{-13_1}{\cancel{-13}}} &= \frac{\overset{-3}{\cancel{39}}}{\underset{-13_1}{\cancel{-13}}} \\ x &= 3 \end{aligned}$$

答 $x = 3$

$$(3) \frac{3x-4}{8} = \frac{5x-14}{6}$$

★

$$\begin{aligned} \frac{\overset{3}{\cancel{24}}(3x-4)}{\underset{8_1}{\cancel{8}}} &= \frac{\overset{4}{\cancel{24}}(5x-14)}{\underset{6_1}{\cancel{6}}} \\ 3(3x-4) &= 4(5x-14) \\ 9x-12 &= 20x-56 \\ 9x-20x &= -56+12 \\ -11x &= -44 \\ \frac{\overset{-1}{\cancel{11}}x}{\underset{-11_1}{\cancel{-11}}} &= \frac{\overset{-4}{\cancel{44}}}{\underset{-11_1}{\cancel{-11}}} \\ x &= 4 \end{aligned}$$

答 $x = 4$

$$(4) \frac{x-6}{2} = \frac{4x-14}{3}$$

★

$$\begin{aligned} \frac{\overset{3}{\cancel{6}}(x-6)}{\underset{2_1}{\cancel{2}}} &= \frac{\overset{2}{\cancel{6}}(4x-14)}{\underset{3_1}{\cancel{3}}} \\ 3(x-6) &= 2(4x-14) \\ 3x-18 &= 8x-28 \\ 3x-8x &= -28+18 \\ -5x &= -10 \\ \frac{\overset{-1}{\cancel{5}}x}{\underset{-5_1}{\cancel{-5}}} &= \frac{\overset{-2}{\cancel{10}}}{\underset{-5_1}{\cancel{-5}}} \\ x &= 2 \end{aligned}$$

答 $x = 2$

方程式の計算（分配法則・小数・分数混合）

例題 次の方程式を解け。

(1) $0.2(x+4)-0.3(2x-1)=2$

★
 $0.2(x+4) \times 10 - 0.3(2x-1) \times 10 = 2 \times 10$
 $2(x+4) - 3(2x-1) = 20$
 $2x+8-6x+3=20$
 $2x-6x=20-8-3$
 $-4x=9$
 $\frac{-4x}{-4} = \frac{9}{-4}$
 $x = -\frac{9}{4}$

答 $x = -\frac{9}{4}$

(2) $\frac{2}{3}(2x-3) - \frac{1}{4}(x-1) = -5$

★
 $^4\cancel{12} \times \frac{2}{\cancel{3}_1} (2x-3) - ^3\cancel{12} \times \frac{1}{\cancel{4}_1} (x-1) = -5 \times 12$
 $8(2x-3) - 3(x-1) = -60$
 $16x-24-3x+3 = -60$
 $16x-3x = -60+24-3$
 $13x = -39$
 $\frac{^1\cancel{13}x}{\cancel{13}_1} = \frac{-^3\cancel{39}}{\cancel{13}_1}$
 $x = -3$

答 $x = -3$

練習A 次の方程式を解け。

(1) $0.2(x-5)-1.2(x-3)=-3.4$

★
 $0.2(x-5) \times 10 - 1.2(x-3) \times 10 = -3.4 \times 10$
 $2(x-5) - 12(x-3) = -34$
 $2x-10-12x+36 = -34$
 $2x-12x = -34+10-36$
 $-10x = -60$
 $\frac{-^1\cancel{10}x}{-\cancel{10}_1} = \frac{-^6\cancel{60}}{-\cancel{10}_1}$
 $x = 6$

答 $x = 6$

(2) $0.3(2x-3)+0.5(x+1)=-1.5$

★
 $0.3(2x-3) \times 10 + 0.5(x+1) \times 10 = -1.5 \times 10$
 $3(2x-3) + 5(x+1) = -15$
 $6x-9+5x+5 = -15$
 $6x+5x = -15+9-5$
 $11x = -11$
 $\frac{^1\cancel{11}x}{\cancel{11}_1} = \frac{-^1\cancel{11}}{\cancel{11}_1}$
 $x = -1$

答 $x = -1$

(3) $\frac{2}{3}(x-6) - \frac{1}{6}(x-3) = 2$

★
 $^2\cancel{6} \times \frac{2}{\cancel{3}_1} (x-6) - ^1\cancel{6} \times \frac{1}{\cancel{6}_1} (x-3) = 2 \times 6$
 $4(x-6) - (x-3) = 12$
 $4x-24-x+3 = 12$
 $4x-x = 12+24-3$
 $3x = 33$
 $\frac{^1\cancel{3}x}{\cancel{3}_1} = \frac{^11\cancel{33}}{\cancel{3}_1}$
 $x = 11$

答 $x = 11$

(4) $\frac{3}{4}(2-3x) - \frac{1}{2}(5x+2) = -9$

★
 $^1\cancel{4} \times \frac{3}{\cancel{4}_1} (2-3x) - ^2\cancel{4} \times \frac{1}{\cancel{2}_1} (5x+2) = -9 \times 4$
 $3(2-3x) - 2(5x+2) = -36$
 $6-9x-10x-4 = -36$
 $-9x-10x = -36-6+4$
 $-19x = -38$
 $\frac{-^1\cancel{19}x}{-\cancel{19}_1} = \frac{-^2\cancel{38}}{-\cancel{19}_1}$
 $x = 2$

答 $x = 2$