

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

練習11B 次の方程式を解け。

(1)  $1.5(3-2x)-0.4(3x+8)=0.6$

答

(2)  $0.5(4x+5)+1.5(x-6)=0.5$

答

(3)  $2(3x-2)-0.3(-x+4)=-1$

答

(4)  $\frac{3}{10}(3x-2)-\frac{2}{15}(-x-4)=2$

答

(5)  $\frac{1}{12}(2x+1)+\frac{3}{4}(4-x)=\frac{1}{6}$

答

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

答

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

★  
 $0.2(x+4) \times 10 - 0.3(2x-1) \times 10 = 2 \times 10$   
 $2(x+4) - 3(2x-1) = 20$   
 $2x+8-6x+3=20$   
 $2x-6x=20-8-3$   
 $-4x=9$   
 $\frac{-1 \cancel{4}x}{-\cancel{4}_1} = \frac{9}{-4}$   
 $x = -\frac{9}{4}$

答  $x = -\frac{9}{4}$

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

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

答  $x = -3$

練習A 次の方程式を解け。

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

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

答  $x = 6$

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

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

答  $x = -1$

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

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

答  $x = 11$

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

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

答  $x = 2$

練習B 次の方程式を解け。

(1)  $1.5(3-2x)-0.4(3x+8)=0.6$

★

$$\begin{aligned} 1.5(3-2x) \times 10 - 0.4(3x+8) \times 10 &= 0.6 \times 10 \\ 15(3-2x) - 4(3x+8) &= 6 \\ 45 - 30x - 12x - 32 &= 6 \\ -30x - 12x &= 6 - 45 + 32 \\ -42x &= 7 \\ \frac{-1 \cancel{42}x}{-42_1} &= \frac{1 \cancel{7}}{-42_6} \\ x &= -\frac{1}{6} \end{aligned}$$

答  $x = -\frac{1}{6}$

(2)  $0.5(4x+5)+1.5(x-6)=0.5$

★

$$\begin{aligned} 0.5(4x+5) \times 10 + 1.5(x-6) \times 10 &= 0.5 \times 10 \\ 5(4x+5) + 15(x-6) &= 5 \\ 20x + 25 + 15x - 90 &= 5 \\ 20x + 15x &= 5 - 25 + 90 \\ 35x &= 70 \\ \frac{1 \cancel{35}x}{35_1} &= \frac{2 \cancel{70}}{35_1} \\ x &= 2 \end{aligned}$$

答  $x = 2$

(3)  $2(3x-2)-0.3(-x+4)=-1$

★

$$\begin{aligned} 2(3x-2) \times 10 - 0.3(-x+4) \times 10 &= -1 \times 10 \\ 20(3x-2) - 3(-x+4) &= -10 \\ 60x - 40 + 3x - 12 &= -10 \\ 60x + 3x &= -10 + 40 + 12 \\ 63x &= 42 \\ \frac{1 \cancel{63}x}{63_1} &= \frac{2 \cancel{42}}{63_3} \\ x &= \frac{2}{3} \end{aligned}$$

答  $x = \frac{2}{3}$

(4)  $\frac{3}{10}(3x-2)-\frac{2}{15}(-x-4)=2$

★

$$\begin{aligned} {}^3 \cancel{30} \times \frac{3}{\cancel{10}_1} (3x-2) - {}^2 \cancel{30} \times \frac{2}{\cancel{15}_1} (-x-4) &= 2 \times 30 \\ 9(3x-2) - 4(-x-4) &= 60 \\ 27x - 18 + 4x + 16 &= 60 \\ 27x + 4x &= 60 + 18 - 16 \\ 31x &= 62 \\ \frac{1 \cancel{31}x}{31_1} &= \frac{3 \cancel{62}}{31_1} \\ x &= 2 \end{aligned}$$

答  $x = 2$

(5)  $\frac{1}{12}(2x+1)+\frac{3}{4}(4-x)=\frac{1}{6}$

★

$$\begin{aligned} {}^1 \cancel{12} \times \frac{1}{\cancel{12}_1} (2x+1) + {}^3 \cancel{12} \times \frac{3}{\cancel{4}_1} (4-x) &= \frac{1}{6} \times \cancel{12}^2 \\ (2x+1) + 9(4-x) &= 2 \\ 2x + 1 + 36 - 9x &= 2 \\ 2x - 9x &= 2 - 1 - 36 \\ -7x &= -35 \\ \frac{-1 \cancel{7}x}{-7_1} &= \frac{-5 \cancel{35}}{-7_1} \\ x &= 5 \end{aligned}$$

答  $x = 5$

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

★

$$\begin{aligned} {}^1 \cancel{4} \times \frac{1}{\cancel{4}_1} (5x-2) - {}^2 \cancel{4} \times \frac{3}{\cancel{2}_1} (x+4) &= -4 \times 4 \\ (5x-2) - 6(x+4) &= -16 \\ 5x - 2 - 6x - 24 &= -16 \\ 5x - 6x &= -16 + 2 + 24 \\ -x &= 10 \\ x &= -10 \end{aligned}$$

答  $x = -10$