第二十課

1.$\frac{1}{2}\left(x+1\right)=5\left(x+2\right)-6$

 $2\left(\frac{1}{2}\left(x+1\right)\right)=2\left(5\left(x+2\right)-6\right)$

 $x+1=10\left(x+2\right)-12$

 $x+1=10x+20-12$

 $x-10x=8-1$

 $-9x=7$

 $x=-\frac{7}{9}$

2.$-\frac{1}{2}\left(x+1\right)=5\left(x+2\right)-6$

 $2\left(-\frac{1}{2}\left(x+1\right)\right)=2\left(5\left(x+2\right)-6\right)$

 $-(x+1)=10\left(x+2\right)-12$

 $-x-1=10x+20-12$

 $-x-10x=8+1$

 $-11x=9$

 $x=-\frac{9}{11}$

3.$-\left(x+1\right)+\frac{1}{2}\left(x-1\right)=3$

 $2(-\left(x+1\right)+\frac{1}{2}\left(x-1\right))=2∙3$

 $-2\left(x+1\right)+\left(x-1\right)=6$

 $-2x-2+x-1=6$

 $-x-3=6$

 $-x=6+3$

 $-x=9$

 $x=-9$

4.$\left(x+1\right)-2\left(x-1\right)=\frac{1}{2}$

 $2(\left(x+1\right)-2\left(x-1\right))=2∙\frac{1}{2}$

 $2\left(x+1\right)-4\left(x-1\right)=1$

 $2x+2-4x+4=1$

 $-2x+6=1$

 $-2x=1-6$

 $-2x=-5$

 $x=\frac{5}{2}$

5.$\left(2x-1\right)-\frac{1}{2}\left(x+1\right)=2$

 $2(\left(2x-1\right)-\frac{1}{2}\left(x+1\right))=2∙2$

 $2\left(2x-1\right)-2∙\frac{1}{2}\left(x+1\right)=4$

 $4x-2-x-1=4$

 $4x-x=4+2+1$

 $3x=7$

 $x=\frac{7}{3}$

6.$\left(x+1\right)+\frac{1}{3}\left(2x-1\right)=1$

 $3(\left(x+1\right)+\frac{1}{3}\left(2x-1\right))=3∙1$

 $3\left(x+1\right)+\left(2x-1\right)=3$

 $3x+3+2x-1=3$

 $5x+2=3$

 $5x=3-2$

 $x=\frac{1}{5}$

7.$-\left(x+2\right)-3\left(x-2\right)=\frac{1}{2}$

 $2(-\left(x+2\right)-3\left(x-2\right))=2∙\frac{1}{2}$

 $-2\left(x+2\right)-6\left(x-2\right)=1$

 $-2x-4-6x+12=1$

 $-8x+8=1$

 $-8x=-7$

 $x=\frac{7}{8}$

8.$\left(x+1\right)+\frac{1}{2}\left(x-1\right)=1$

 $2(\left(x+1\right)+\frac{1}{2}\left(x-1\right))=2∙1$

 $2\left(x+1\right)+\left(x-1\right)=2$

 $2x+2+x-1=2$

 $3x+1=2$

 $3x=1$

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

9.$-3\left(x-2\right)+\frac{1}{3}\left(x+2\right)=1$

 $3(-3\left(x-2\right)+\frac{1}{3}\left(x+2\right))=3∙1$

 $-9\left(x-2\right)+\left(x+2\right)=3$

 $-9x+18+x+2=3$

 $-8x+20=3$

 $-8x=-17$

 $x=\frac{17}{8}$

10.$2\left(x-1\right)+3\left(x-2\right)=\frac{3}{2}$

 $2(2\left(x-1\right)+3\left(x-2\right))=2∙\frac{3}{2}$

 $4\left(x-1\right)+6\left(x-2\right)=3$

 $4x-4+6x-12=3$

 $10x-16=3$

 $10x=19$

 $x=\frac{19}{10}$

11.$-\left(x+2\right)+3\left(x-1\right)=\frac{1}{2}$

 $2(-\left(x+2\right)+3\left(x-1\right))=2∙\frac{1}{2}$

 $-2\left(x+2\right)+6\left(x-1\right)=1$

 $-2x-4+6x-6=1$

 $4x-10=1$

 $4x=11$

 $x=\frac{11}{4}$

12.$-\frac{2}{3}\left(x-1\right)+\left(x+2\right)=2$

 $3(-\frac{2}{3}\left(x-1\right)+\left(x+2\right))=3∙2$

 $-2\left(x-1\right)+3\left(x+2\right))=6$

 $-2x+2+3x+6=6$

 $x+8=6$

 $x=-2$

13.$3\left(x-1\right)-\frac{1}{2}\left(x+2\right)=1$

 $2(3\left(x-1\right)-\frac{1}{2}\left(x+2\right))=2∙1$

 $6\left(x-1\right)-\left(x+2\right)=2$

 $6x-6-x-2=2$

 $5x-8=2$

 $5x=10$

 $x=2$

14.$-3\left(x-1\right)-\frac{1}{2}\left(x+2\right)=1$

 $2(-3\left(x-1\right)-\frac{1}{2}\left(x+2\right))=2∙1$

 $-6\left(x-1\right)-\left(x+2\right)=2$

 $-6x+6-x-2=2$

 $-7x+4=2$

 $-7x=-2$

 $x=\frac{2}{7}$

15.$3\left(2x-1\right)-\frac{1}{2}\left(x+3\right)=\frac{1}{2}$

 $2(3\left(2x-1\right)-\frac{1}{2}\left(x+3\right))=2∙\frac{1}{2}$

 $6\left(2x-1\right)-\left(x+3\right)=1$

 $12x-6-x-3=1$

 $11x-9=1$

 $11x=10$

 $x=\frac{10}{11}$

16.$2\left(x-1\right)+3\left(x+2\right)=\frac{1}{2}$

 $2(2\left(x-1\right)+3\left(x+2\right))=2∙\frac{1}{2}$

 $4\left(x-1\right)+6\left(x+2\right)=1$

 $4x-4+6x+12=1$

 $10x+8=1$

 $10x=-7$

 $x=-\frac{7}{10}$

17.$-\left(x+2\right)+\frac{1}{3}\left(2x-1\right)=1$

 $3(-\left(x+2\right)+\frac{1}{3}\left(2x-1\right))=3∙1$

 $-3\left(x+2\right)+\left(2x-1\right)=3$

 $-3x-6+2x-1=3$

 $-x-7=3$

 $-x=10$

 $x=-10$

18.$-2\left(x-1\right)+\frac{1}{3}=\left(-3x+2\right)$

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

 $-6\left(x-1\right)+1=\left(-9x+6\right)$

 $-6x+6+1=-9x+6$

 $-6x+9x=6-7$

 $3x=-1$

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

習題

1.$-2\left(x+1\right)+3\left(2x-1\right)=\frac{1}{2}$

2.$-\left(x+2\right)=\left(-2x+1\right)+\frac{3}{2}$

3.$\left(x+1\right)+\frac{1}{2}=3(x-2)$

4.$2\left(x-1\right)-3\left(x-2\right)=\frac{1}{2}$

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

6.$3\left(x-1\right)-4\left(2x-1\right)=-\frac{1}{2}$

7.$\left(x+1\right)-2\left(x-1\right)=\frac{2}{3}$

8.$\left(x-2\right)+\left(x-3\right)=\frac{3}{2}$

9.$-\left(x-2\right)+\left(2x-3\right)=\frac{1}{2}$

10.$\left(2x-1\right)-\left(x-1\right)=\frac{1}{2}$

11.$\left(x-2\right)+\frac{1}{2}\left(x+4\right)=\frac{1}{3}$

12.$-\left(x-2\right)+\left(2x-4\right)=\frac{1}{2}$

13.$\left(x+1\right)-2\left(x-1\right)=\frac{1}{2}$

14.$\left(x+1\right)+2\left(x-1\right)=\frac{1}{2}$

15.$\left(x+1\right)+\frac{1}{2}\left(x-1\right)=1$

答案

1.$x=\frac{11}{8}$

2.$x=\frac{9}{2}$

3.$x=\frac{15}{4}$

4.$x=\frac{7}{2}$

5.$x=\frac{9}{2}$

6.$x=\frac{3}{10}$

7.$x=\frac{7}{3}$

8.$x=\frac{13}{4}$

9.$x=\frac{3}{2}$

10.$x=\frac{1}{2}$

11.$x=\frac{2}{9}$

12.$x=\frac{5}{2}$

13.$x=-\frac{5}{2}$

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

15.$x=\frac{1}{3}$