第二十課

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

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

$x+1=10(x+2)-12$

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

$x-10x=8-1$

$-9x=7$

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

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

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

$-(x+1)=10(x+2)-12$

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

$-x-10x=8+1$

$-11x=9$

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

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

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

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

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

$-x-3=6$

$-x=6+3$

$-x=9$

$x=-9$

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

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

$2(x+1)-4(x-1)=1$
$2x+2-4x+4=1$
$-2x+6=1$
$-2x=1-6$
$-2x=-5$

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

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

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

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

$4x-2-x-1=4$
$4x-x=4+2+1$
$3x=7$

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

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

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

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

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

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

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

$-2(x+2)-6(x-2)=1$
$-2x-4-6x+12=1$
$-8x+8=1$
$-8x=-7$

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

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

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

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

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

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

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

$-9(x-2)+(x+2)=3$
$-9x+18+x+2=3$
$-8x+20=3$
$-8x=-17$

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

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

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

$4(x-1)+6(x-2)=3$
$4x-4+6x-12=3$
$10x-16=3$
$10x=19$

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

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

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

$-2(x+2)+6(x-1)=1$
$-2x-4+6x-6=1$
$4x-10=1$
$4x=11$

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

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

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

$-2(x-1)+3(x+2))=6$
$-2x+2+3x+6=6$
$x+8=6$
$x=-2$

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

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

$6(x-1)-(x+2)=2$
$6x-6-x-2=2$
$5x-8=2$
$5x=10$
$x=2$

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

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

$-6(x-1)-(x+2)=2$
$-6x+6-x-2=2$
$-7x+4=2$
$-7x=-2$

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

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

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

$6(2x-1)-(x+3)=1$
$12x-6-x-3=1$
$11x-9=1$
$11x=10$

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

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

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

$4(x-1)+6(x+2)=1$
$4x-4+6x+12=1$
$10x+8=1$
$10x=-7$

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

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

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

$-3(x+2)+(2x-1)=3$
$-3x-6+2x-1=3$
$-x-7=3$
$-x=10$
$x=-10$

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

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

$-6(x-1)+1=(-9x+6)$
$-6x+6+1=-9x+6$
$-6x+9x=6-7$
$3x=-1$

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

習題

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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