§3-5 PROBLEM SET

Solve each radical equation.

1. $\sqrt{2x+1}=3$

2. $\sqrt{2-y}+1=5$

3. $5-\sqrt{2k}=3$

4. $9-\sqrt{t+2}=5$

5. $3-\sqrt{x+1}=0$

6. $\sqrt[3]{r}=2$

7. $\sqrt{x}-3=5$

8. $3-\sqrt{y+3}=0$

9. $4-\sqrt{x+1}=5$

10. $5-\sqrt{x+3}=3$

11. $t=\sqrt{6t-9}$

12. $t=2\sqrt{t-1}$

13. $x+2\sqrt{x+1}=7$

14. $x=\sqrt{6x+18}-3$

15. $x+2=\sqrt{2x+3}$

16. $3\sqrt{x-2}+2=x$

17. $x+3\sqrt{x-2}=12$

18. $a-4=2\sqrt{a-5}$

19. $\sqrt{x^2+3x-2}-x=1$

20. $x-1+\sqrt{x^2+3}=0$

21. $\sqrt{x^2-3x-1}=3$

22 $\sqrt{x}+\sqrt{x-7}=7$

23. $2=\sqrt{x-5}-\sqrt{x+16}$

24. $\sqrt{x}+\sqrt{x+11}=11$

25. $\sqrt{x+3}+\sqrt{x}=5$

26. $\sqrt{x+1}=2-\sqrt{x}$

27. $3\sqrt{c}-1=\sqrt{c}+1$

28. $\sqrt{m+10}-\sqrt{m-6}=2$

29. $\sqrt{2x+4}=3-\sqrt{2x}$

30. $2\sqrt{3w-5}-3\sqrt{w+1}=0$

31. $\sqrt{4s+3}=2\sqrt{s-1}+1$

32. $\sqrt{x}-\sqrt{x+8}=8$

33. $\sqrt{3+x}+\sqrt{x}=\dfrac{6}{\sqrt{3+x}}$

34. $\dfrac{5}{\sqrt{x-1}}+\dfrac{\sqrt{x+4}}{2}=2\sqrt{x-1}$

35. $\sqrt{x+7}=2-\sqrt{x-5}$

36. $2\sqrt{x+1}-\sqrt{2x}=\sqrt{x-4}$

37. $2\sqrt{x}-\sqrt{4x-22}=\sqrt{2}$

38. $\sqrt{x+9}-\sqrt{x+2}=\sqrt{4x-27}$

§3-4 PROBLEM SET

Solve each equation for *x*.

1. $a+b=\dfrac{c+a}{x}$

2. $\dfrac{1}{a}-\dfrac{2}{x}=\dfrac{3}{b}$

3. $\dfrac{a}{x}+1=\dfrac{2}{x}$

4. $\dfrac{1}{a}+\dfrac{1}{b}=\dfrac{c}{x}$

Solve each rational equation. If there is no solution then write *no solution*.

5. $\dfrac{x+1}{5}=\dfrac{x+3}{3}$

6. $a+\dfrac{25}{a}=10$

7. $\dfrac{4}{b-4}-\dfrac{3}{b-3}=1$

8. $\dfrac{1}{t^2}-16=0$

9. $\dfrac{1}{x-3}=\dfrac{8}{x^2-9}$

10. $\dfrac{5}{x-2}-\dfrac{2}{x+2}=\dfrac{3}{x^2-4}$

11. $\dfrac{3}{y}=2+\dfrac{1}{y}$

12. $\dfrac{5}{x^2-7x+12}=\dfrac{2}{x-3}+\dfrac{5}{x-4}$

13. $\dfrac{4}{y-4}-\dfrac{3}{y-3}=1$

14. $\dfrac{3}{2}-\dfrac{z}{5}=\dfrac{1}{10}+\dfrac{3z}{20}$

15. $1-\dfrac{3}{b}=\dfrac{10}{b^2}$

16. $\dfrac{3}{x^2-16}+\dfrac{1}{2x+8}=0$

17. $\dfrac{x+2}{x^2-4}=\dfrac{3}{x-6}$

18. $\dfrac{x}{x-4}+\dfrac{6}{x-3}=\dfrac{16}{(x-4)(x-3)}$

19. $\dfrac{8}{a^2}+1=\dfrac{9}{a}$

20. $\dfrac{2}{x+2}+\dfrac{1}{x-2}=\dfrac{3}{x}$

21. $x-\dfrac{12}{x}=1$

22. $5-\dfrac{2}{2x-2}=\dfrac{3}{x^2-4}$

23. $\dfrac{3}{x+2}=\dfrac{4}{x-1}$

24. $\dfrac{x}{x^2-1}+\dfrac{2}{x+1}=\dfrac{1}{2x-2}$

25. $\dfrac{2}{p}=3+\dfrac{1}{p}$

26. $\dfrac{2}{4t^2-9}+\dfrac{1}{2t-3}=\dfrac{3}{2t+3}$

27. $\dfrac{1}{x-2}+\dfrac{2}{x(x-1)}+\dfrac{2}{x(x-1)(x-2)}=0$