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