

Appendix Review Worksheet

1. Use inequality notation to show: a) x is positive b) x is negative
c) x is no more than 6 d) x is at least 12

Solve

2. $\frac{5x-4}{5x+4} = \frac{2}{3}$

3. $\frac{1}{x-3} + \frac{1}{x+3} = \frac{10}{x^2-9}$

Simplify

4. $\frac{2}{x^2-4} - \frac{1}{x^2-3x+2}$

5. $\frac{1}{x^2-x-2} - \frac{x}{x^2-5x+6}$

Solve for x

6. $\frac{1}{x-2} + \frac{3}{x+3} = \frac{4}{x^2+x-6}$

7. $\frac{7}{2x+1} - \frac{8x}{2x-1} = -4$

Simplify

8. $\frac{x^3-1}{x+1} \cdot \frac{x^2+1}{x^2-1}$

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

Solve

10. $x^4 + 5x^2 - 36 = 0$

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

Rationalize The Denominator

12. $\frac{6}{\sqrt[3]{3}}$

13. $\frac{4}{\sqrt{3} + \sqrt{2}}$

14. $\frac{7}{1 - \sqrt{3}}$

Factor

15. $25 - (z + 5)^2$

16. $x^2 + x + \frac{1}{4}$

17. $27x^3 + 64$

18. $5x^3 - 10x^2 + 3x - 6$

19. $9x^2 + 36$

20. $9x^2 - 36$

Perform The Indicated Operation

21. Subtract $(x^3 + 3x^2 - 5x + 7)$ from $(12x^3 - 6x + 8)$

22. $(x^2 + 1)(x + 1)(x - 1)$

23. $(3x + 2)^3$

24. $[(x - 3) + y]^2$

Simplify

25. $(4a^{-2}b^3)^{-3}$

26. $\left(\frac{x^{-3}y^4}{5}\right)^{-3}$

27. $\left[\left(x^2y^{-2}\right)^{-1}\right]^{-1}$

Simplify

28.
$$\frac{\sqrt{2x-1} - \frac{x+2}{\sqrt{2x-1}}}{2x-1}$$