

Honors Algebra 2 Trig. Chapter P Review

Simplify

1. $(-9x^3y)(-2x^6y^4)$

2. $\frac{24x^3y^5}{32x^7y^{-9}}$

3. $\left(\frac{-15a^4b^2}{5a^{10}b^{-3}}\right)^3$

4. $\sqrt{2x^2} \cdot \sqrt{6x}$

5. $\sqrt{50x} - \sqrt{8x}$

6. $3\sqrt{8} - \sqrt{32} + 3\sqrt{72} - \sqrt{75}$

7. $\frac{13}{3 + \sqrt{11}}$

8. $\frac{6}{\sqrt{5} + \sqrt{3}}$

9. $\left(7x^{\frac{1}{3}}\right)\left(2x^{\frac{1}{4}}\right)$

Perform the indicated operation.

10. $(-6x^3 + 5x^2 - 8x + 9) + (17x^3 + 2x^2 - 4x - 13)$

11. $(8x^2 + 7x - 5) - (3x^2 - 4x) - (-6x^3 - 5x^2 + 3)$

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

13. $(4x^2 + 5x)(4x^2 - 5x)$

14. $(x-3)^2$

15. $(3x+7-5y)(3x+7+5y)$

Factor Completely

16. $x(x+5) + 3(x+5)$

17. $3x^3 - 2x^2 - 6x + 4$

18. $3x^2 - 25x - 28$

19. $2x^2 + 3xy + y^2$

20. $36x^2 - 49$

21. $4x^2 + 4x + 1$

22. $x^3 + 27$

23. $8x^3 - 1$

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

25. $-8(4x+3)^{-2} + 10(5x+1)(4x+3)^{-1}$

26. $6x^4 + 35x^2 - 6$

27. $y^7 + y$

28. $2x^2 - 7xy^2 + 3y^4$

Find the domain. Write the answer in interval notation.

$$29. \frac{x+5}{x^2-25}$$

$$30. \frac{x-1}{x^2+11x+10}$$

Simplify. Don't forget to write the domain restrictions.

$$31. \frac{3x-9}{x^2-6x+9}$$

$$32. \frac{y^2+7y-18}{y^2-3y+2}$$

$$33. \frac{x^2-5x+6}{x^2-2x-3} \cdot \frac{x^2-1}{x^2-4}$$

$$34. \frac{4x^2+10}{x-3} \div \frac{6x^2+15}{x^2-9}$$

$$35. \frac{x^2-25}{2x-2} \div \frac{x^2+10x+25}{x^2+4x-5}$$

$$36. \frac{3}{x+4} + \frac{6}{x+5}$$

$$37. \frac{x^2+3x}{x^2+x-12} - \frac{x^2-12}{x^2+x-12}$$

$$38. \frac{4x^2+x-6}{x^2+3x+2} - \frac{3x}{x+1} + \frac{5}{x+2}$$

$$39. \frac{1+\frac{1}{x}}{3-\frac{1}{x}}$$

$$40. \frac{\frac{3}{x-2} - \frac{4}{x+2}}{\frac{7}{x^2-4}}$$