

Algebra 2 – Chapter 6 Example Quiz

Name: _____ Hour: _____

Expect the quiz to have multiple choice answers (maybe not on all of them though). You should work these out on a separate sheet of paper. In terms of difficulty, these problems are either as hard or harder than the problems on the quiz.

Simplify using Properties of Exponents.

1. $a^6 b^{-4} c^3 * a^{-9} b^3 c^7$

2. $\frac{4a^5 b^{-3} c^{-2}}{12a^3 b^2 c}$

3. $\frac{2x^2 y}{y^3 z^{-1}} \cdot \frac{4z^3 x^{-4}}{12y^5}$

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

Add/Subtract/Multiply the following polynomials as indicated.

5. $(3x^4 - 6x^2 + 5x - 9) + (-x^3 + 2x^4 - 5x + 4)$

6. $(-9x^2 + 2x^3 + 3) - (-2x^2 + 3x + 6)$

7. $(2x + 3)(-x^2 + 4x + 1)$

Factor the following polynomials by using the Sum/Diff. of Cubes formulae.

8. $x^3 + 64$

9. $27x^3 - 125$

10. $16x^4 + 2x$

Factor the following polynomials by Grouping.

11. $6x^3 - 16x^2 + 21x - 56$

12. $12x^3 + 2x^2 - 30x - 5$

Solve the following polynomial equations. Only give real number answers.

13. $4x^3 - 12x^2 - 5x = -15$

14. $8x^3 = 64x^2 - x + 8$

15. $x^3 - 27 = 0$