

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Per: \_\_\_\_\_

## Chapter 9 Practice Test

### Polynomials and Factoring

Read each problem carefully and be sure to show ALL of your work. Make sure all numbers are written clearly and to circle each answer. Do your best!

**Find the sum, difference or product.**

1.  $(3x^3 - 5x + 1) - (2x^3 + 4x - 9)$

2.  $(5x - 9)^2$

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

**For numbers 4 and 5, use the GCF to complete the problem.**

4. **Factor:**  $27x^3z^5 - 9x^4z^2 + 3xz$

5. **Solve:**  $4x^2 = 8x$

**Factor completely.**

6.  $x^2 - 13x - 48$

7.  $2x^2 + 16x + 14$

8.  $-x^2 + 18x - 56$

9.  $3x^2 + 11x - 20$

10.  $4x^2 - 28x + 49$

11.  $2x^2 - 3x - 27$

**Solve each polynomial equation.**

12.  $x^2 + 8x = -15$

13.  $7x^2 - 15x = -2$

14. Factor:  $144x^2 - 25$

15. Solve:  $4x^2 - 9 = 0$

16. A rectangular picture is 4 cm longer than it is wide. It is surrounded by a mat that is 2 cm wide. The combined area of the picture and the mat is  $140 \text{ cm}^2$ . Find the dimensions of the picture.

