

## Practice Test for Polynomial Unit

### Learning Objectives:

- A. Simplify expressions using exponents.
- B. Identify whether an equation is an identity.
- C. Add and subtract polynomial functions.
- D. Multiply polynomial functions.
- E. Factor polynomials using GCF or grouping.
- F. Factor trinomials.
- G. Factor a difference of squares.
- H. Factor a sum or difference of cubes.
- I. Solve a factorable polynomial equation.

Question #	Learning Objective	Know It	Feel Unsure		Right	Wrong	Simple Mistake	Need to Study
1	A							
2	B							
3	C							
4	D							
5	E							
6	E							
7	F							
8	G							
9	H							
10	I							

1. Simplify:  $(3x^2yz^3)^2(-4xyz^5)^3$
2. Which of these equations are identities? How do you know?  
 a)  $(x + 3)^2 = x^2 + 9$       b)  $x^2 - 9 = (x + 3)(x - 3)$       c)  $2(x - 3) = 2x + 6$
3. Given  $f(x) = 5x^4 - 3x^3 + 5x - 3$  and  $g(x) = 2x^4 + 6x^2 - 7x - 3$ , find  $f(x) + g(x)$  and  $f(x) - g(x)$ .
4. Given  $f(x) = 3x + 4$  and  $g(x) = x^2 - 3x - 7$ , find  $f(x) \cdot g(x)$ .
5. Factor:  $3x^2yz^3 - 12xy^4z^3$
6. Factor:  $4x^3 - 12x^2 - 5x + 15$
7. Factor each trinomial: a)  $x^2 - 3x - 88$       b)  $3x^2 + 16x + 5$       c)  $8x^2 - 2x - 3$
8. Factor:  $9x^4 - 64y^2$
9. Factor:  $64x^3 + 1$
10. Solve the equation:  $3x^2 + 13x = 10$