

Name _____

Per. _____

Date _____

Algebra 1

10.1/ 10.2 Worksheet

Adding, Subtracting, and Multiplying Polynomials

Show all work.

For questions 1 - 15, simplify:

Comp 1 Section 1**Adding Polynomials**

1) $(3x^2 - 4x - 1) + (8x^2 - x + 6)$

2) $(6x^2 - x - 4) + (2x^2 + 5x - 5)$

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

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

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

Section 2— Subtracting Polynomials

6) $(3x^2 + 2x + 1) - (x^2 - 3x + 4)$

7) $(2x^2 - 3x + 7) - (5x^2 + 3x + 6)$

8) $(7x^3 + 3x^2 + 4x + 10) - (10 + 8x + 3x^3)$

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

10) $(7x^3 - 9x^2 - 7x - 8) - (8 - 4x^2 - 6x^3)$

Section 3—Operations with Polynomials

11) $4(a + 5) - 5(a^2 - 4a + 7)$

12) $8(y + 6) - 6(y^2 - 6y + 4)$

13) $3(c - 4) - 5(c^2 + 4c - 8)$

14) $2(y - 7) - 3(y^2 - 2y + 8)$

15) $5(x + 3) - 9(x^2 - 3x + 2)$

**Comp 2 Section 1—Multiplying
Polynomials Using the FOIL Process**

16) $(x + 3)(x - 12)$

17) $(x - 1)(x - 10)$

18) $(x + 4)(x + 11)$

19) $(x + 3)(x - 4)$

20) $(x - 10)(x - 10)$

21) $(r - 11)(r + 11)$

22) $(m + 12)(m - 12)$

**Section 2—Multiplying Polynomials
Using the FOIL Process—Perfect
Squares**

23) $(x - 3)^2$

24) $(n + 4)^2$

25) $(m - 6)^2$

26) $(a + 7)^2$

27) $(b - 8)^2$

Section 3—Multiplying Polynomials Using the FOIL Process—with Two Variables

28) $(2x + 7y)(x + y)$

29) $(3y - 5z)(y + z)$

30) $(4x + 5y)(x + y)$


31) $(3p - 4q)(p + q)$


32) $(5c + 7d)(c + d)$


Section 4—Multiplying Polynomials Using the FOIL Process—from Formulas

For questions 33 - 35, use the given
rectangle to:

- Write an expression for the area
- Represent the area as a polynomial

33) 
 $2x - 1$

34) 
 $x + 4$

35) 
 $n - 3$