

Name _____
Algebra 1

Per. _____

Date _____

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

$$6) \overline{(3x^2 + 2x + 1) - (x^2 - 3x + 4)}$$

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

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

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

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

Section 3—Operations with Polynomials

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

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

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

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

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

Comp 2 Section 1—Multiplying Polynomials Using the FOIL Process

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

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

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

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

$$20) \quad (x - 10)(x - 10)$$

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

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

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

$$23) \quad (x - 3)^2$$

$$24) \quad (n + 4)^2$$

$$25) \quad (m - 6)^2$$

$$26) \quad (a + 7)^2$$

$$27) \quad (b - 8)^2$$

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

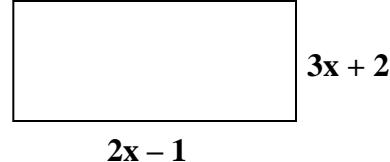
32) $(5c + 7d)(c + d)$

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

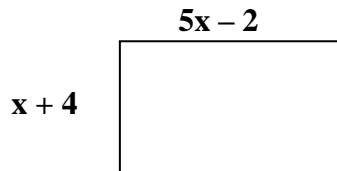
For questions 33 – 35, use the given rectangle to:

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

33)



34)



35)

