Assignment 6

Special Products

Use the patterns we developed in class to find these special products. If you use FOIL do so mentally rather than writing out the whole sequence.

1. $(x+5)^2$

2. $(x-1)^2$

3. $(x+3)(x-3)$

4. $(x+3)^2$

5. $(x-3)^2$

6. $(x+7)^2$

7. $(x+5)(x-5)$

Practice with Extending FOIL

Multiply each of the expressions

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

2. $(3n+4)(n^2-3n+5)$

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

4. $(n-2)(n^2+2n+4)$

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

Name _____

Factor using the greatest common factor ~GCF.

1. $2x^3+6x^4$

2. x^3+x^2-x

3. $12b^3-6b^4$

4. $5x^2-30$

5. $5x^3+3x^2+x$

6. $4y^6-12y^5-20y^3$

Practice with Perfect Square Trinomials.

Fill in the blanks making the statement true.

1. $x^2 \_\_\_\_ x + 25 = (x+5)^2$

2. $x^2 + 12x \_\_\_\_ = (x \_\_\_\_)^2$

3. $x^2 - \_\_\_ x + 49 = (x \_\_\_\_)^2$

4. $x^2 \_\_\_\_ x + 1 = (x + \_\_\_)^2$

5. $x^2 - 10x \_\_\_\_ = (x \_\_\_\_)^2$

Complete the square and then write as a binomial squared.

6. $x^2 - 10x \_\_\_\_\_ = (\_\_\_\_\_)^2$

7. $x^2 + 6x \_\_\_\_\_ = (\_\_\_\_\_)^2$

8. $x^2 - 12x \_\_\_\_\_ = (\_\_\_\_\_)^2$

9. $x^2 + 4x \_\_\_\_\_ = (\_\_\_\_\_)^2$

10. $x^2 - 14x \_\_\_\_\_ = (\_\_\_\_\_)^2$

Practice with Factoring Trinomials.

Factor each trinomial.

1. $x^2 + 9x + 20$

2. $x^2 + 7x + 10$

3. $x^2 - x - 6$

4. $x^2 - 12x + 20$

5. $x^2 - 2x - 8$

6. $x^2 - 8x + 15$

Review

Simplify by performing the indicated operations.

1. $(8y^3 - 2xy^2 + y) - (3y^3 - 2xy^2 - y)$

2. $(-ab)(-a^3b^2)(-a^2)$

3. $(x-5)(3x-5)$

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

5. $-3a^3b(2ab^2 - ab + 5)$

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

7. $\left(5x^2\right)(-3x)(x)\left(-4x^2\right)$