Name: _____

Common Factors in Polynomials

1. $3x^3 + 6x^2 + 12x$

2. $5x^4 - 15x^2 + 25x$

3. $12x^3y^3 - 8x^2y^2 + 4xy$

4. $3x^2y^2 - 6x^3y^3 - 9x^2y^2$

5. $2x^6 + 4x^5 - 6x^4 + 8x^3$

6. $5y^5 - 10y^4 - 15y^3 + 20y^2$

7. $8xy^5z + 16x^2yz^3 - 14x^4y^5z^4 + 28x^2y^5z^8$

8. $9x^3y^5z - 36xy^3z^6 + 27x^2y^7z^6 - 18$

Difference of Two Squares

1. $x^2 - 4$

2. $a^2 - b^2$

3. $x^2 - 25$

4. $a^2 - 9$

5. $9p^2 - 4$

6. $4x^2 - 25y^2$

7. $16m^2 - 169n^2$

8. $9x^2 + 100y^2$

Perfect Trinomial Squares

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

2. $x^2 + 10x + 25$

3. $y^2 + 6y + 9$

4. $a^2 + 18a + 81$

5. $x^2 + 20x + 100$

6. $y^2 + 8y + 16$

7. $32x^2 + 32x + 8$

8. $18x^2 + 24x - 8$

Factoring Trinomials: (x^2 + Bx + C)

1. $x^2 + 3x + 2$
2. $x^2 + 4x + 3$
3. $x^2 + 6x + 5$
4. $x^2 + 5x + 4$
5. $x^2 + 7x + 10$
6. $x^2 + 5x + 6$
7. $c^2 - 12cd + 20d^2$
8. $x^2 - 6xy - 55y^2$

Factoring Trinomials: (Ax^2 + Bx + C)

1. $2x^2 + 9x + 4$
2. $2x^2 + 7x + 5$
3. $3x^2 + 10x + 3$
4. $3x^2 + 10x + 7$
5. $3x^2 + 13x + 12$
6. $5x^2 + 17x + 6$
7. $12x^2 + 48xy - 144y^2$
8. $8x^2 - 48xy + 22y^2$

Factoring by Grouping

1. $y^3 + 5y^2 + 2y + 10$
2. $6x^3 - 3x^2 + 10x - 5$
3. $x^3 + 2x^2 + 3x + 6$
4. $x^3 + 3x^2 + 4x + 12$
5. $y^3 + 6y^2 - 5y - 30$
6. $12a^2c^2 + 8bc^2 - 15a^2 - 10b$
7. $16x^2 + 8xy + y^2 - 25$
8. $36x^6 - 9x^4 - 4x^2 + 1$