**Honors Math 2**

**Polynomials: Add, Subtract and Multiply**

**Classifying Polynomials**

A **polynomial** is a monomial or **the sum or difference of a number** of monomials.

A **binomial** is a polynomial with two terms.

A **trinomial** is a polynomial with three terms.

Examples:

|  |  |  |
| --- | --- | --- |
| **Monomial** | **Binomial** | **Trinomial** |
| 5x2 | 3x + 2 | 5x2 – 2x + 7 |
|  |  |  |

**Adding and Subtracting Polynomials**

Like Terms – terms that contain the same variable(s) and the same exponents.

\*Remember: Only like terms can be added or subtracted.

**REMEMBER TO DISTRIBUTE THE NEGATIVE**

(7x2 – 8) – (-3x2 + 1) =

**Find each sum or difference.**

**1.** (4a – 5) + (3a + 6)

**2.** (3x2 – 5xy2 + y3) + (-3x2 + 5xy2 – y3)

**3.** (3p2 – 2p + 3) + (p2 – 7p – 7)

**4.** (x2 + y2) – (-x2 + y2)

**Practice Problems:**

**5.** (2x2 + 5xy + 4y2) – (2x2 + 5xy + 4y2)

**6.** (2a2 – ab + b2) + (3a2 + 5ab – 7ab2)

**Multiplying by a Monomial**

**Multiplying Examples:**

**1. 2(x – 3) = 2. 6(x2 + 2x +3)**

**3. 4x(x2 – x + 8) = 4. -3n2(n3 – 2n2 + n – 1) =**

**5. a(8a + 12) =**

**Practice Problems:**

**1. 6rs(r2s – 3) = 2. -4y2(3y3 – 6y + 3) =**

**3. a(-9ab + 12a) =**

**Multiplying Polynomials**

**Ex. 1 (m – 3)(m + 4) Ex. 2 (2m + 6)(m – 1)**

**Ex. 3 (3x – 2)2 Ex. 4 (2x2 – 5x + 3)( x + 4)**

**Practice Problems:**

**1. (n + 6)(n + 1) 2. (5a – 1)(5a + 6) 3. (-2x + 6)2**

**4. (3x – 5)(x2 – 4x + 6) 5. (3x2 + 2x – 1)(2x2 – 5x + 7)**