**Math I Homework: Multiplying and Factoring Polynomials Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Due: Tuesday 11/22/16**

**DO ALL WORK ON A SEPARATE PIECE OF PAPER!!!**

**MULTIPLYING POLYNOMIALS**

Multiply each of the following.

1. (2x+1)2
2. (3x + 2)(x2 +4x-3)
3. (2x + 5y)(6x-5y)
4. 2(3x + 5)2+4

**FACTORING POLYNOMIALS**

FACTOR BY USING THE GCF

1. 24x + 48y
2. 30mn2 + m2n – 6n
3. 45x4y2 + 15xy2

*FACTOR TRINOMIALS – x2 + bx + c*

1. g2 – 2g – 63
2. y2 + 4y – 60
3. x2 – 11x + 30

FACTOR TRINOMIALS – ax2 + bx + c)

1. 2a2 + 5a + 3
2. 18x2 – 27x – 5
3. 3x2 + 2x – 8

FACTOR (ALL MIXED UP)

1. 4x2 + 4x – 3
2. 16a3b4 – 6a2
3. 12xq2 + 34xq – 28x

**AREA – FACTORING APPLICATION**

1. The area of a rectangle is g2 + 7g +10, find the dimensions of the rectangle.
2. The area of a square is m2 + 12m + 36. Find the length of each side.
3. Find the perimeter of the square in question #2.
4. The volume of a rectangular prism is 8m3 – 32m. Find the length of all three sides. How many sides are binomials?
5. The area of a rectangle is 8w2 +2w – 15. If one of the sides is (4w – 5), what is the length of the other side?
6. The area of a rectangular book cover is 2x2 – 3x – 20. The width of the book cover is x–4, what is the length of the cover?

**MORE FACTORING APPLICATION**

1. Find the middle of three consecutive integers such that the product of the smaller two plus 34 is equal to the largest integer squared.

2. Find three consecutive even integers such that the largest integer squared is the same as the product of the smaller two plus 88