***SAT WARM-UP*:** The measure of the largest angle of a triangle is 14 less than twice the measure of the smallest angle. The third angle measure is 2 more than the measure of the smallest angle. What is the measure of the smallest angle?

**Vocabulary**

2. a. ***Depressed Polynomial*** – The polynomial that results when you do long division or synthetic division. The degree is one less than the original polynomial.

b. ***The Factor theorem*** says that when you divide a polynomial by (x-r), and get no remainder, then x-r is a factor of the polynomial. You can then use the depressed polynomial to find all the remaining factors and then solve!

c. Example: Determine whether x-5 is a factor of  . Then find the remaining factors of the polynomial.

d. Determine whether x-3 is a factor of  Then find the remaining factor of the polynomial.

synthetic division

depressed polynomial

 1. Remainder Theorem: You can use SYNTHETIC SUBSTITUTION to evaluate a function.

a. If find f(4)
Use synthetic division, and the remainder is the answer! Then compare to direct substitution. With no calculator, synthetic substitution is often easier!

b. if  find f(-1)

This new function is called (f+g)(x)

 5. Honors Group Work

Find the Solutions of each polynomial Function

a. 

b. 

3. a. Remember! Not all polynomials can be factored. Look at  on your graphing calculator. How do you know it can’t be factored.

b. Will the factor theorem only help to solve if you are given a factor to try?

5. In Class Practice # 1-13

4. Practice in Class #1-7

Practice at Home: 5.6 # 9,11,13,17,19,21,23,25,27,32