

## Assignment 1 – Chapter 8 (After Test Assignment)

Name \_\_\_\_\_

1. **Read the 8.1.1 Notes** on my blog under today's date. The notes are titled "Polynomial Basics". From this, add anything to your own notes as needed. *When finished, come back and continue this assignment.*
2. **For each function below**, state if it is a polynomial. **IF** the answer is "yes", fill out the remaining columns *The first is done for you.*

	<u>Polynomial?</u>	<u>Standard. Form</u>	<u>Leading Coefficient</u>	<u>Degree</u>	<u>Name based on degree</u>	<u>Name based on # terms</u>
$P(x) = x^3 - 5x^4 + 7$						

$$Q(x) = -4x^2 + 6x^5$$

$$R(x) = x - 4x^3 + 4 + 3x^2$$

$$T(x) = (2x + 1)(x - 5)$$

$$F(x) = 40x$$

3. The left side of the following equation is a polynomial. Polynomial equations that are degree 3 will have three solutions or less. The polynomial happens to be in factored form rather than standard form which is rather helpful when the other side is 0. Solve and find all of the solutions:

$$x(2x + 1)(3x - 5) = 0$$

4. Factor the following quadratic polynomial .... (into two factors)  $n^2 - 20n + 3$

5. **Simplify** the following polynomials. (*simplify normally means eliminate all parentheses and put into "standard" form.*)

$(2x + 1)(10x^3 - x^2 + 3x - 7)$  *some people like to use a box to keep things organized*

6. **Now it is GDC time.** Graph the polynomial,  $P_1(x) = (x - 2)((x - 5)^2)$ . Without simplifying it, can you tell what family it belongs to? \_\_\_\_\_

a) Sketch it

b) Label all x-intercepts on your sketch

c) How are the x-intercepts related to the given function ?

7. Read question # 8-1 from your textbook, experimenting with your GDC as it suggests. Then attempt the task and write your best attempt at a function that matches the situation.

y = \_\_\_\_\_

