

**Lesson #13: Understanding Polynomial Functions and Sketching Graphs of Polynomial Functions  
(Reference: Lesson #101 in book)****Problem**

1. For each of the following Identify the leading coefficient, degree of the polynomial, and describe the end behavior of the function.

1.  $f(x) = 2x^3 + 3x^2 - 4x + 1.$

2.  $f(x) = x^2 + 3x^4 - 5x^7 + 7$

3.  $f(x) = 3x^6 + 11x^5 + 4x^4$

4.  $f(x) = x^2 - x^6 - 5x$

5. Graph each of the following polynomial functions on a graphing sheet of paper using the procedure we discussed in class. (SHOW ALL OF YOUR WORK TO RECIEVE FULL CREDIT).

5.  $f(x) = x^3 - 2x^2 - 5x + 6$

6.  $f(x) = -6x^3 - 10x^2 - 4x$

7.  $f(x) = -6x^3 - 21x^2 - 18x$

8.  $f(x) = x^4 - x^3 + x^2 - 3x - 6$

9.  $f(x) = -2x^4 + 7x^3 - x^2 - 7x + 3$

10.  $f(x) = x^4 - 2x^3 - 5x^2 + 8x + 4$