**2.2 Polynomial Functions of Higher Degree**

**Objective: To become familiar with the features of polynomial graphs of higher degree**

**Important Concepts (less important with graphing calculator)**

**-Polynomial functions are continuous graphs**

**-Polynomial functions are have smooth curves**

**-Number of solutions = Degree**

**-Number of turning points = Degree - 1**

**-Leading Coefficient Test (Determines End Behavior)**

**-Even Degree 🡪 Both up (if lead coefficient is positive)**

**🡪 Both down (if lead coefficient is negative)**

**-Odd Degree 🡪 Right up and left down (if lead coefficient positive)**

**🡪 Right down and left up (if lead coefficient negative)**

**More about Real Zeros**

**x = a is a zero of function**

**x = a is a solution of polynomial f(x) = 0**

**(x – a) is a factor of polynomial f(x)**

**(a , 0) is an x-intercept of the graph of f**

**Repeated zeros when graph touches, but does not cross**

**Homework**

**Pg 145 #17, 23, 27, 49, 57, 97**