**In order to sketch the graph of a polynomial function, we need \_\_\_\_\_\_\_ characteristics:**

|  |
| --- |
| **Number of Turns** |
| \*How many turns the graph has.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - \_\_\_\_\_\_\_\_\_\_ |
| **End Behavior** |
|

|  |  |  |
| --- | --- | --- |
|  | **Even Degree** | **Odd Degree** |
| **+ LC** |  |  |
| **- LC** |  |  |

\*What f(x) does as we choose larger positive and larger negative x-values. |
| **Finding Zeros** |
| \*The values of x where the graph crosses the x-axis.**Steps to finding zeros in the calculator:**1. Select “Table”
2. Select # 2 - “Edit Function”
3. Enter the polynomial function and press “Enter” 5 times until a table of values appears.
4. Scroll through the table to determine the values of x when y = 0.

\*Remember your degree = the number of solutions.**What happens is one (or more) of the zeros doesn’t appear in our table?**1.) Use synthetic division to divide out the zeros you can find.2.) Solve the resulting polynomial to determine the remaining zeros. |
| **Y-Intercept** |
| \*The point where the graph crosses the y-axis. The y-int. is always written as the point (0, y).To calculate the y-intercept, plug in ZERO for x and simplify. **HINT:** This should result in the CONSTANT value of the polynomial. |

**Example: Sketch a graph of the function**



|  |
| --- |
| **Number of Turns:** |
| **Zeros:** |
| **Y-Intercept:** |
| **End Behavior:** |

**Example: Sketch a graph of the function**





**Example: Sketch a graph of the function**



**Example: Sketch a graph of the function**



