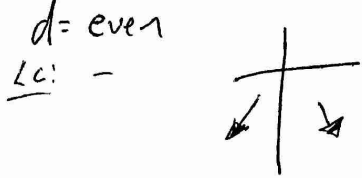


6.1B - End Behavior of Polynomials

1. Sketch the end behavior of the following polynomials without using a calculator:

a. $y = ax^4 + bx^2 + cx + d$ where $a < 0$



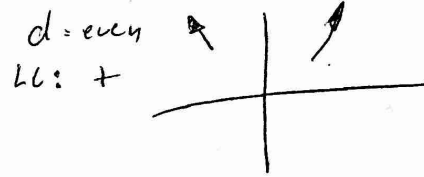
b. $y = 2(x + 2)(x + 7)^3$



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



d. $y = x(x - 1)(x + 6)(x - 1)$



Without using a graphing calculator, identify the x-intercepts and their multiplicity and then make a sketch of the graph with the proper end behavior.

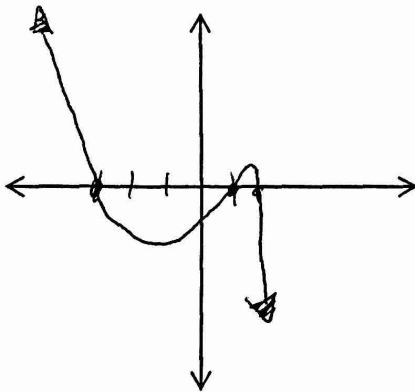
2. $f(x) = -2(x + 3)(x - 2)(x - 1)$
 $x = -3 \quad x = 2 \quad x = 1$

a. End Behavior (sketch):



b. x-intercepts and their multiplicity:

- $(-3, 0) - 1$
- $(2, 0) - 1$
- $(1, 0) - 1$



3. $g(x) = x(x + 3)^3(x - 1)$

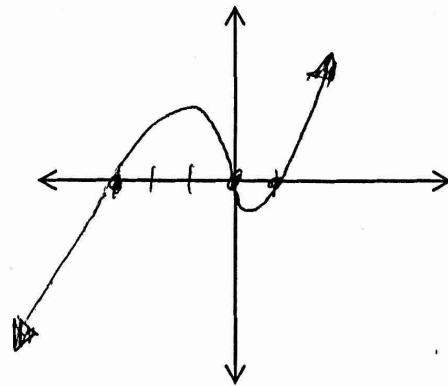
$x(x+3)(x+3)(x+3)(x-1)$

a. End Behavior (sketch):



b. x-intercepts and their multiplicity:

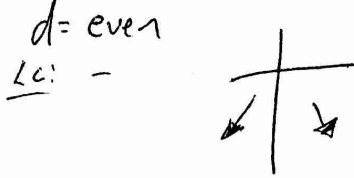
- $(0, 0) - 1$
- $(-3, 0) - 3$
- $(1, 0) - 1$



6.1B - End Behavior of Polynomials

1. Sketch the end behavior of the following polynomials without using a calculator:

a. $y = ax^4 + bx^2 + cx + d$ where $a < 0$



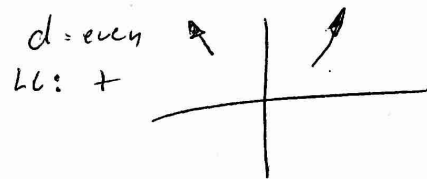
b. $y = 2(x + 2)(x + 7)^3$



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



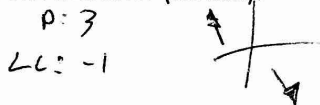
d. $y = x(x - 1)(x + 6)(x - 1)$



Without using a graphing calculator, identify the x-intercepts and their multiplicity and then make a sketch of the graph with the proper end behavior.

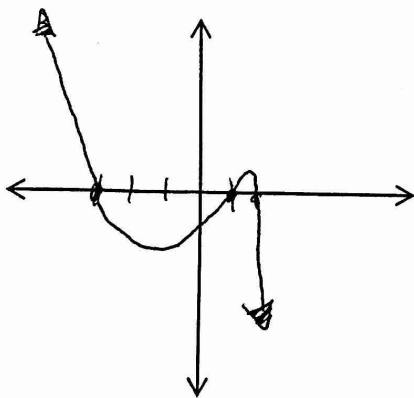
2. $f(x) = -2(x + 3)(x - 2)(x - 1)$
 $x = -3 \quad x = 2 \quad x = 1$

a. End Behavior (sketch):



b. x-intercepts and their multiplicity:

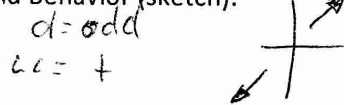
- $(-3, 0) - 1$
- $(2, 0) - 1$
- $(1, 0) - 1$



3. $g(x) = x(x + 3)^3(x - 1)$

$x(x + 3)(x + 3)(x + 3)(x - 1)$

a. End Behavior (sketch):



b. x-intercepts and their multiplicity:

- $(0, 0) - 1$
- $(-3, 0) - 3$
- $(1, 0) - 1$

