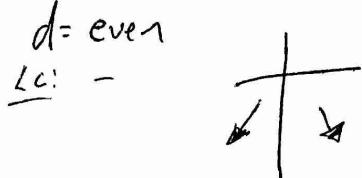


6.1B – End Behavior of Polynomials

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

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



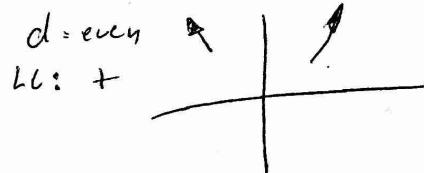
b. $y = 2(x+2)(x+7)^3$



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



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

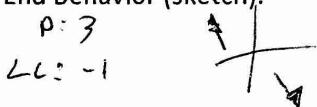


Without using a graphing calculator, identify the x-intercepts and their multiplicity and then make a sketch of the graph with the proper end behavior.

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:

$(-3, 0) - 1$

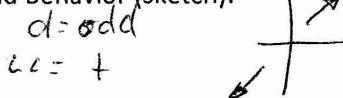
$(2, 0) - 1$

$(1, 0) - 1$

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

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

a. End Behavior (sketch):

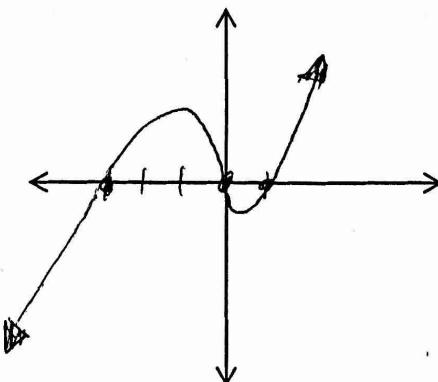
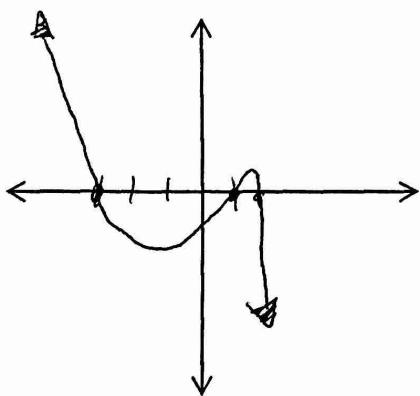


b. x-intercepts and their multiplicity:

$(0, 0) - 1$

$(-3, 0) - 3$

$(1, 0) - 1$



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 $a < 0$

$d = \text{even}$

LC: -



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

$d = \text{even}$

LC: +



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

$d = 4 \text{ even}$

LC: -



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

$d = \text{even}$

LC: +



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):

$p: 3$
LC: -1



b. x-intercepts and their multiplicity:

$(-3, 0) - 1$

$(2, 0) - 1$

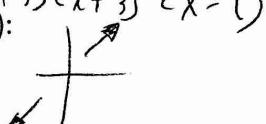
$(1, 0) - 1$

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

$x = (-3, 0) \quad (x+3) \quad (x+3) \quad (x+3) \quad (x-1)$

a. End Behavior (sketch):

$d = \text{odd}$
LC: +



b. x-intercepts and their multiplicity:

$(0, 0) - 1$

$(-3, 0) - 3$

$(1, 0) - 1$

