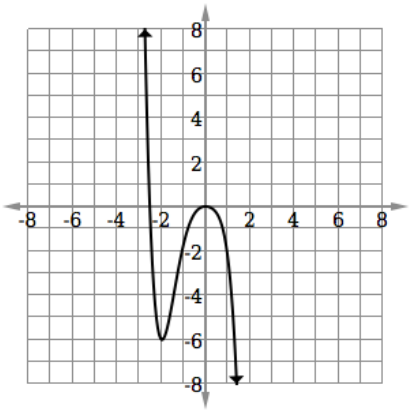
Name: _____ **Period:** _____ **Date:** _____

5-4 HW Analyzing Graphs of Polynomial Functions

1. Given the graph of $f(x)$ to the right, estimate the following:



a) What is the relative minimum? Relative maximum?

b) On what interval(s) of x is $f(x)$ decreasing?

c) On what interval(s) of x is $f(x)$ increasing?

d) How many turning points?

e) How many real zeros?

2. Graph $f(x) = x^3 - 2x^2 - 5x + 6$ on your calculator fill in the table and sketch it to the right:

a) What is the relative maximum?

Relative minimum?

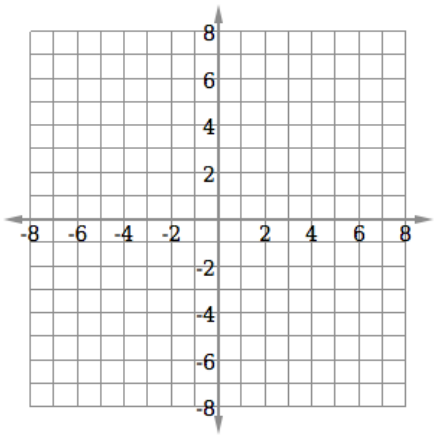
b) On what interval(s) of x is $f(x)$ increasing?

c) On what interval(s) of x is $f(x)$ decreasing?

d) How many turning points?

e) How many real zeros?

x	y



3. Use the grid to sketch a polynomial function with the following characteristics:

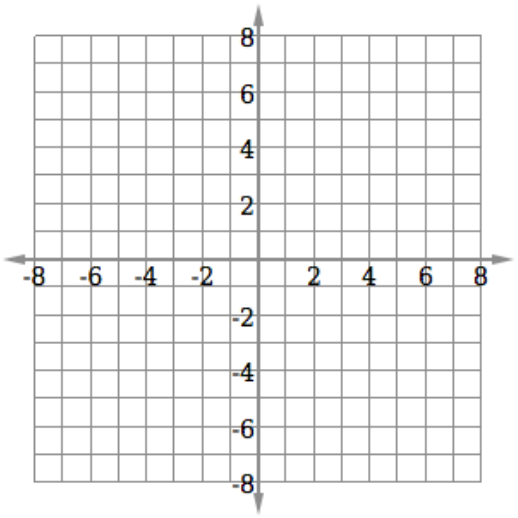
-- relative maxima at $(-2, 3)$ and $(4, 1)$

-- relative minimum at $(0, 0)$

-- degree = 4 with a negative leading coefficient

a) On what interval(s) is the graph increasing?

b) On what interval(s) is the graph decreasing?



4. Use the grid to sketch a polynomial function with the following characteristics:

-- relative maxima at $(0,4)$

-- relative minimum at $(2, 0)$

-- degree = 3 with a positive leading coefficient

a) On what interval(s) is the graph increasing?

b) On what interval(s) is the graph decreasing?