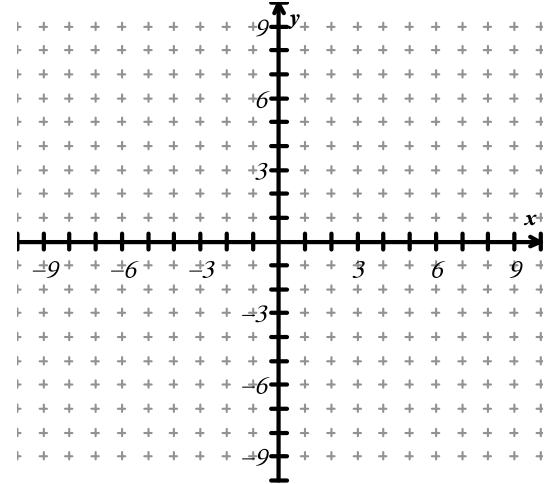


NOTES: INCREASING AND DECREASING

DAY 4

OBJECTIVE: Today you will learn how to determine when a graph is increasing and decreasing!

1. Rollercoaster Problem:



2. Domain: _____

Range: _____

Relative Max: _____

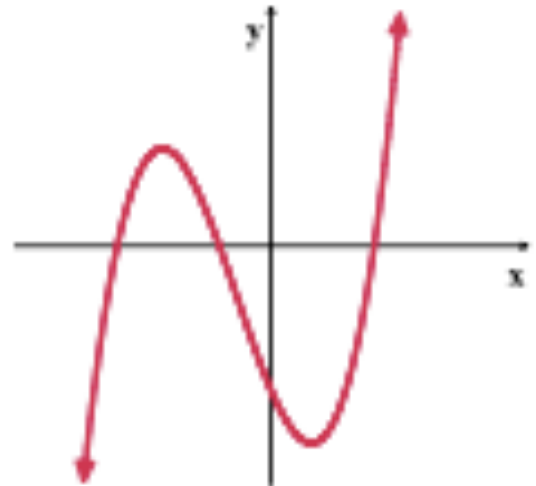
Relative Min: _____

Absolute Max: _____

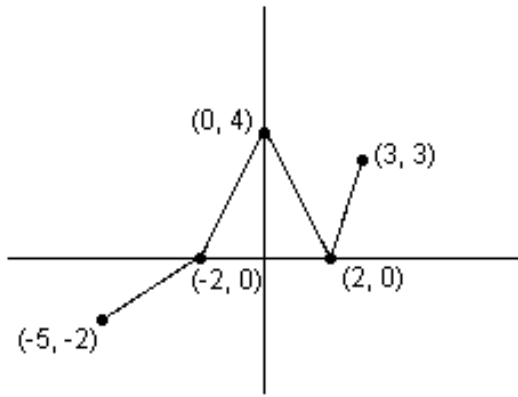
Absolute Min: _____

Increasing: _____

Decreasing: _____



3) Find the following using the following graph:



Domain: _____ Range: _____

x -intercept(s): _____ y -intercept: _____

Local minimum: _____ absolute min: _____

Local maximum: _____ absolute max: _____

Increasing interval(s): _____

Decreasing interval(s): _____

CALCULATOR GRAPHING

4. Graph $x^3 - 9x^2 + 8x + 60$ using your calculator. Sketch its graph below.

a. Determine the number of zeros for the polynomial _____

b. Where are the real zeros for the polynomial _____

c. Determine the number of turning points _____

d. Where are the relative minimums or maximums? _____

e. Where are the absolute minimums or maximums? _____

f. Describe the end behavior of the graph:

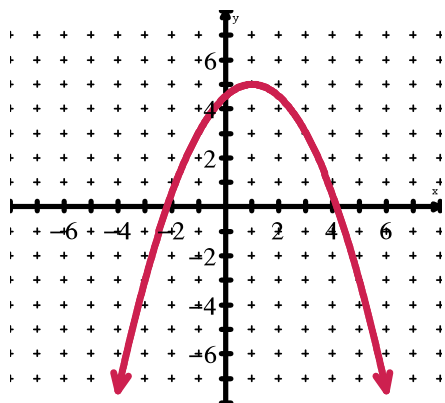
Right Side: _____

Left Side: _____

PRACTICE:

KEY FEATURES OF POLYNOMIAL FUNCTIONS

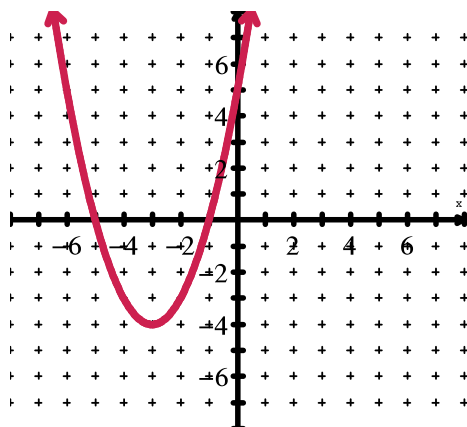
Example:



Increasing: _____

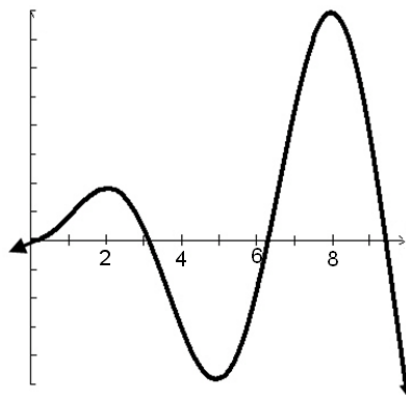
Decreasing: _____

You Try:



Increasing: _____

Decreasing: _____



Increasing: _____

Decreasing: _____

1. Graph $y = 3x^4 + x^3 - 10x^2 + 2x + 7$ using your calculator. Sketch its graph below.

a. Determine the number of zeros for the polynomial _____

b. Determine the number of real zeros for the polynomial _____

c. Determine the number of turning points _____

d. Does the graph have relative minimums or maximums? _____

e. Does the graph have absolute minimums or maximums? _____

f. Describe the end behavior of the graph:

Right Side: _____

Left Side: _____

2. Graph $y = 2x^3 - 3x^2 + 2$ using your calculator. Sketch its graph below.

a. Determine the number of zeros for the polynomial _____

b. Determine the number of real zeros for the polynomial _____

c. Determine the number of turning points _____

d. Does the graph have relative minimums or maximums? _____

e. Does the graph have absolute minimums or maximums? _____

Right Side: _____

Left Side: _____