

# STATION #1

## 4.1 AND 4.2 LINEAR AND QUADRATIC FUNCTIONS

- 1) Find the input for which the function has a max or a min.  
**Also, state the range for the function.**

$$y = -2x^2 - 3x + 2$$

- 2) Write a linear function that satisfies the given information:

$$f(3) = 12 \quad f(2) = -2$$

- 3) When a baseball team sells tickets at a price of \$10/ticket, the average attendance at recent games has been 27,000. A market survey indicates that for every dollar the ticket price is lowered, attendance increases by 3000.
- Write a function that represents ticket price as a function of the number of tickets sold.
  - Write a function that represents the revenue in terms of the number of tickets sold. (Revenue=Price•Number Sold)

# STATION #2

4.4 MODELING FUNCTIONS AND 4.5 MAX/MINS

## CHOOSE BETWEEN #1 OR #2 AND ALSO COMPLETE #3

- 1) A farmer has 1200 ft. of fencing and plans to create a pig pen with two separate corrals. Find the dimensions that will maximize the total area of the pig pen.
- 2) Let P be a point on the function  $y = 2\sqrt{x + 2} + 1$ . Find the minimum distance from the point P to the point (6, 1).
- 3) A Norman window (a semi circle on top of a rectangle) has a perimeter of 20 feet. Find the radius that will maximize the area of the window.

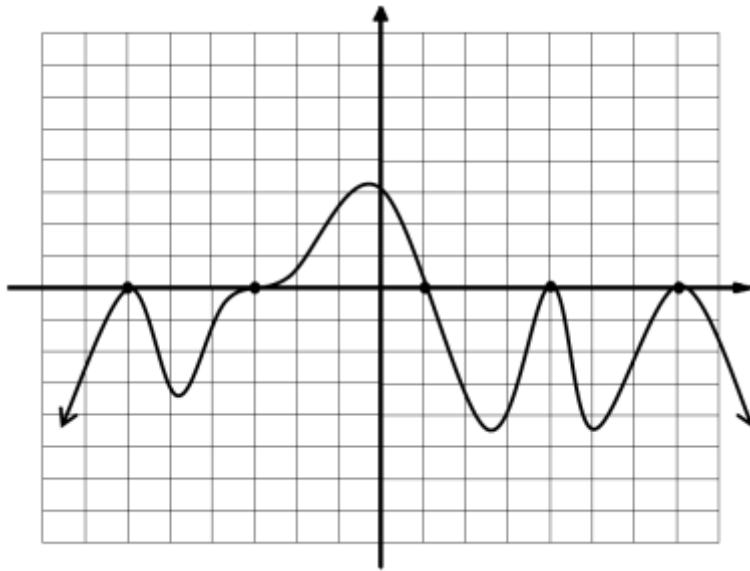
# STATION #3

## 4.6 POLYNOMIAL FUNCTIONS

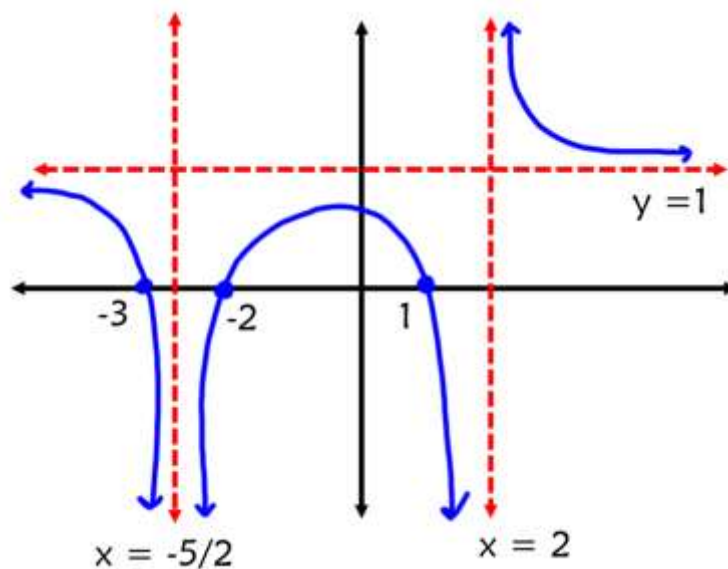
- 1) **SKETCH** the graph of the function.

$$y = (x - 5)^2 (x + 3)^3 (x - 2)(2 - x)$$

- 2) Find a possible equation for the graph:



- 3)



# STATION #4

## 4.7 RATIONAL FUNCTIONS

- 1) Graph the function. List ALL important info.

$$y = \frac{5}{x^2 - 2x - 8}$$

- 2) List ALL asymptotes for the function.

$$y = \frac{3x^3 - 4x^2 + 1}{x^2 - 2}$$

- 3) Find the point for which the graph of the function crosses the horizontal asymptote.

$$y = \frac{x^2 + x - 12}{x^2 - 4}$$