Precalc Warm Up – 10/14/10

Name:_____ Period:_____

1) Consider the function $f(x) = 2x^2 - 4x - 3$

   a. Is $f(x)$ positive or negative when x=1

   b. Is $f(x)$ positive or negative when x=-1

2) Consider the function $f(x) = 4\left(\frac{1}{2}\right)^x$

   a. Find $f(1)$

   b. Find $f(2)$

   c. Find $f(0)$

   d. Find $f(-1)$

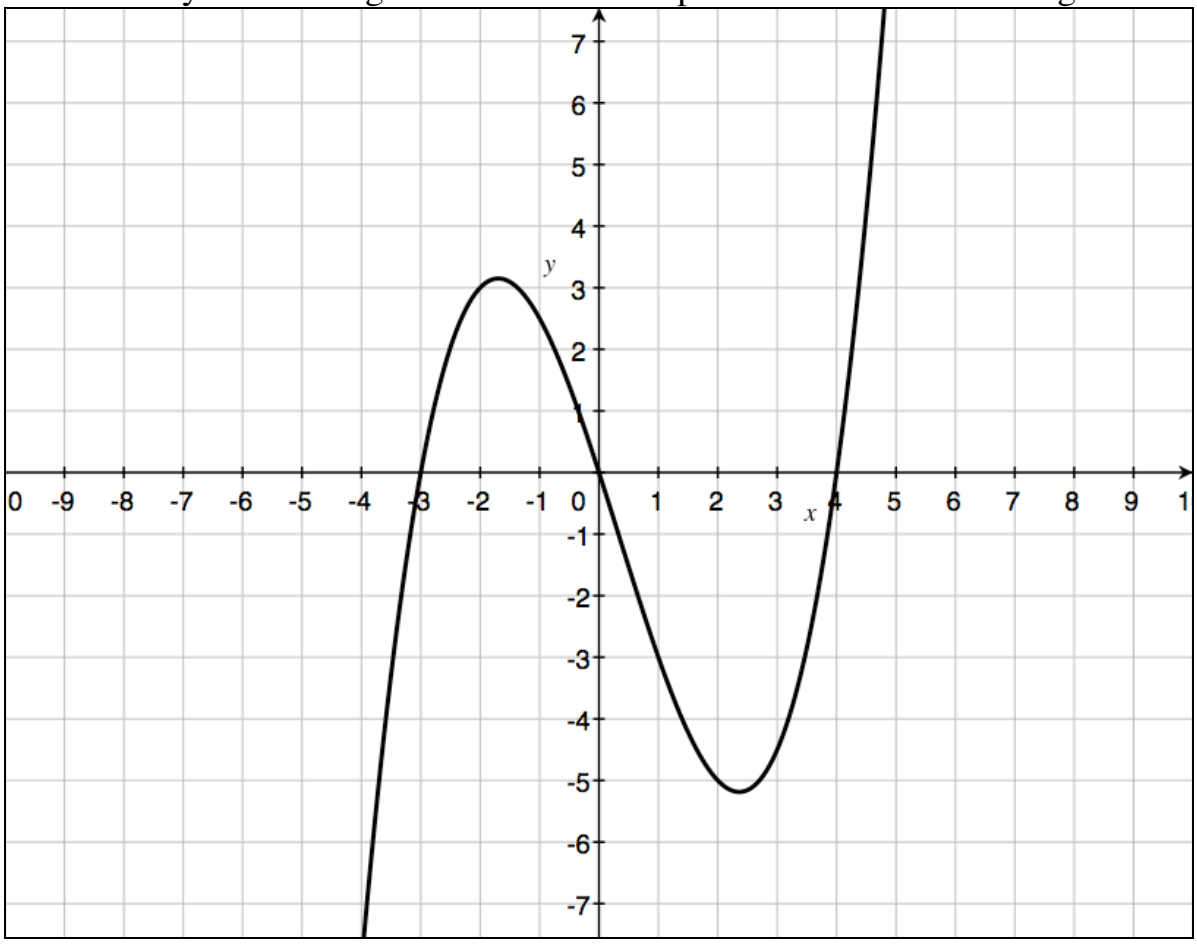
   e. Find $f(-2)$

Precalc Interim Prep Mini Lessons

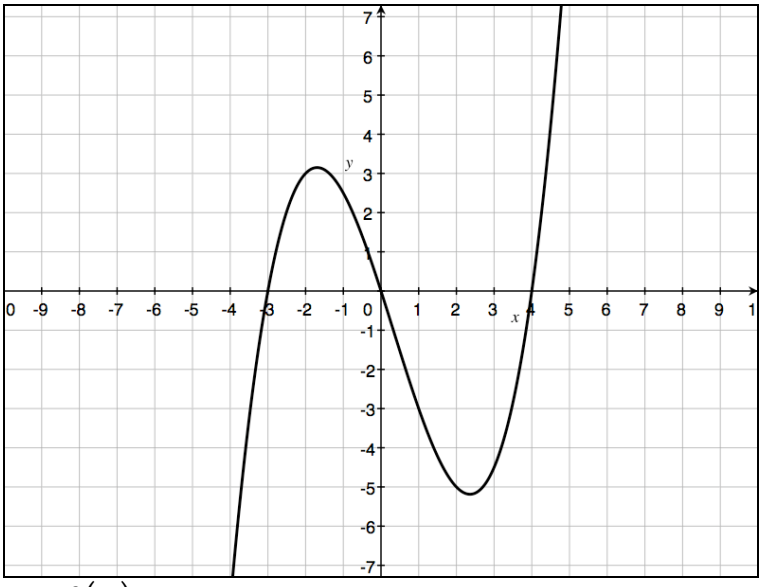
Name:_____Date:_____Period:_____

Students will be able to determine if a function is increasing/deceasing and positive/negative for a given x-value

Let's start by considering when a function is positive and when it is negative.



1) Consider the graph of $f(x)$ shown below. Which of the following statements is true when x=1?



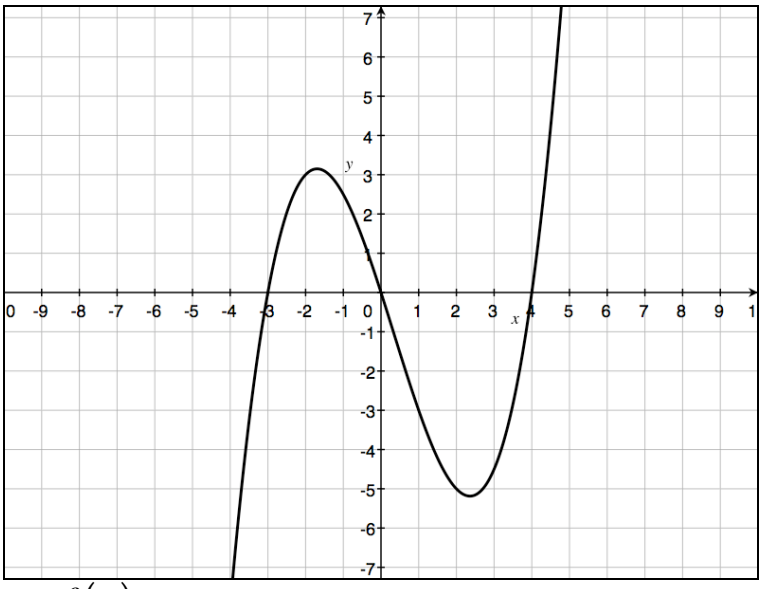
a) $f(x)$ is positive and increasing

b) $f(x)$ is positive and decreasing

c) $f(x)$ is negative and increasing

d) $f(x)$ is negative and decreasing

2) Consider the graph of $f(x)$ shown below. Which of the following statements is true when x=-2?



a) $f(x)$ is positive and increasing

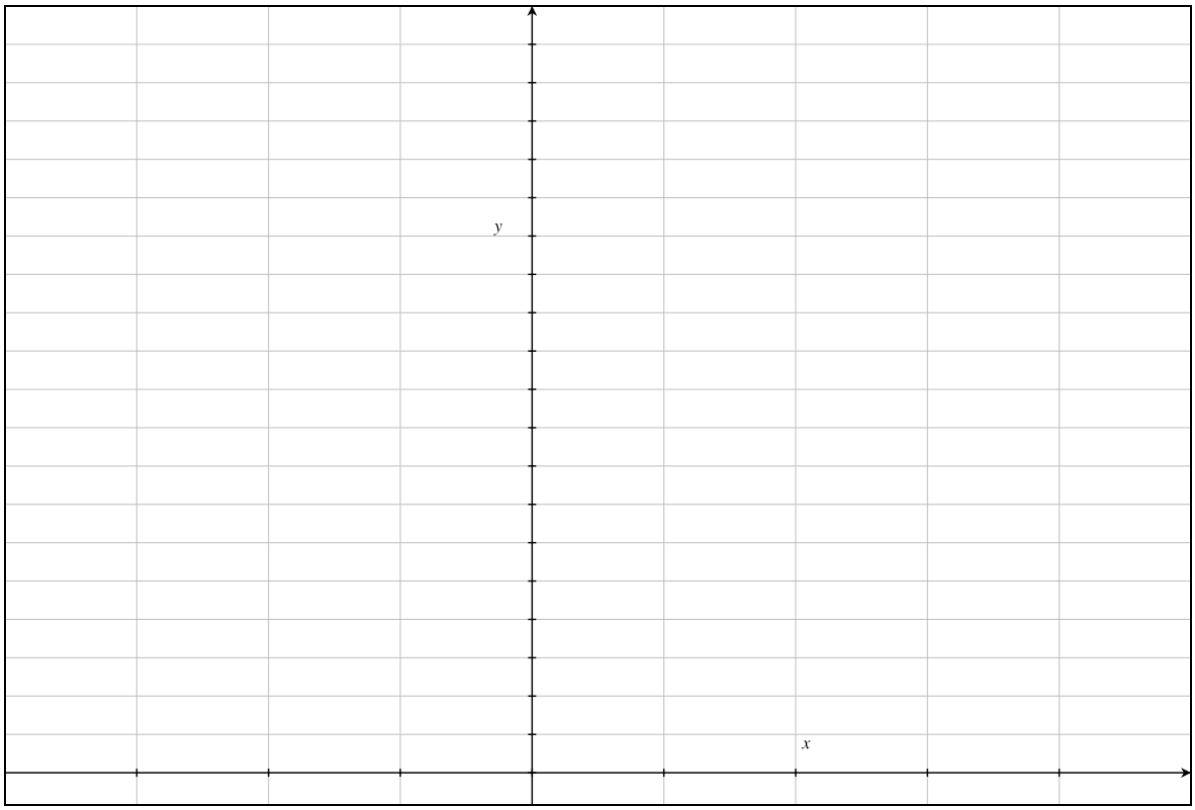
b) $f(x)$ is positive and decreasing

c) $f(x)$ is negative and increasing

d) $f(x)$ is negative and decreasing

Students will be able to graph an exponential function (including negative values of x) by creating a table and plotting points.

Sketch the function $f(x) = 4\left(\frac{1}{2}\right)^x$

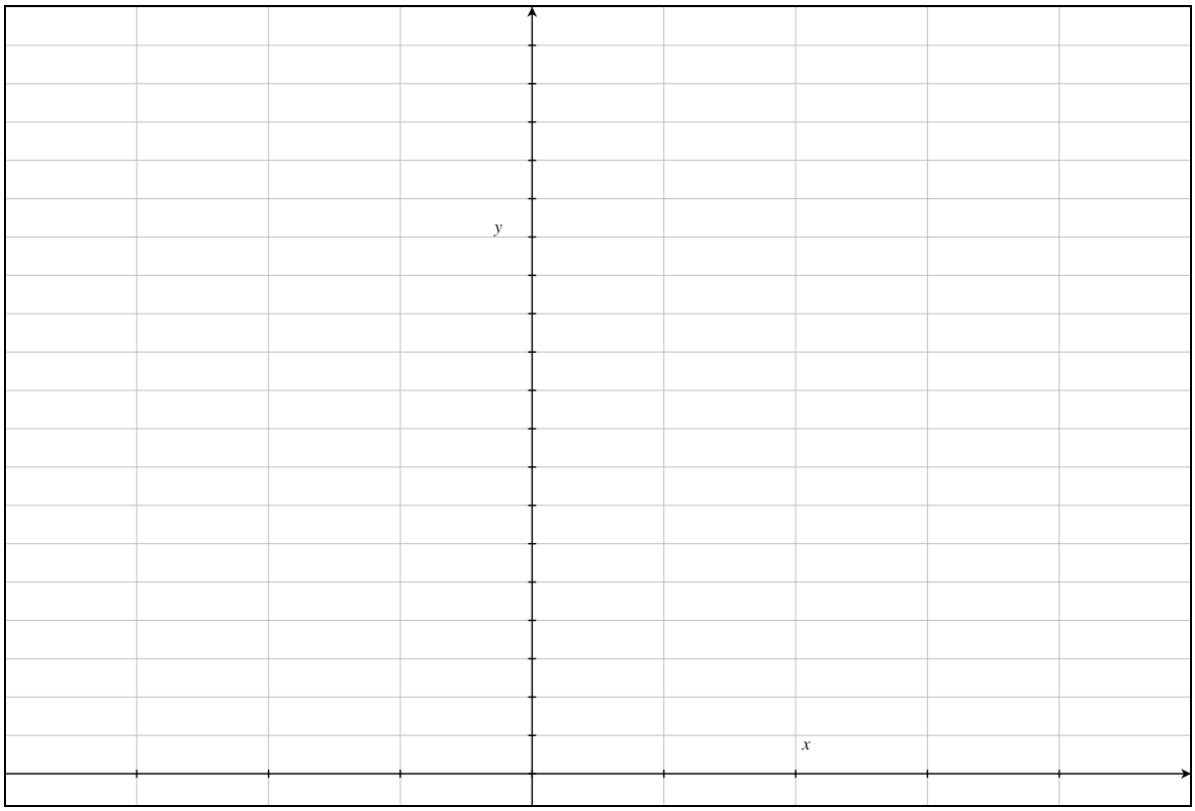


Is $f(x)$ an exponential growth or decay function?

What is the y-intercept?

What is the asymptote for $f(x)$?

Sketch the function $f(x) = 9\left(\frac{1}{3}\right)^x$



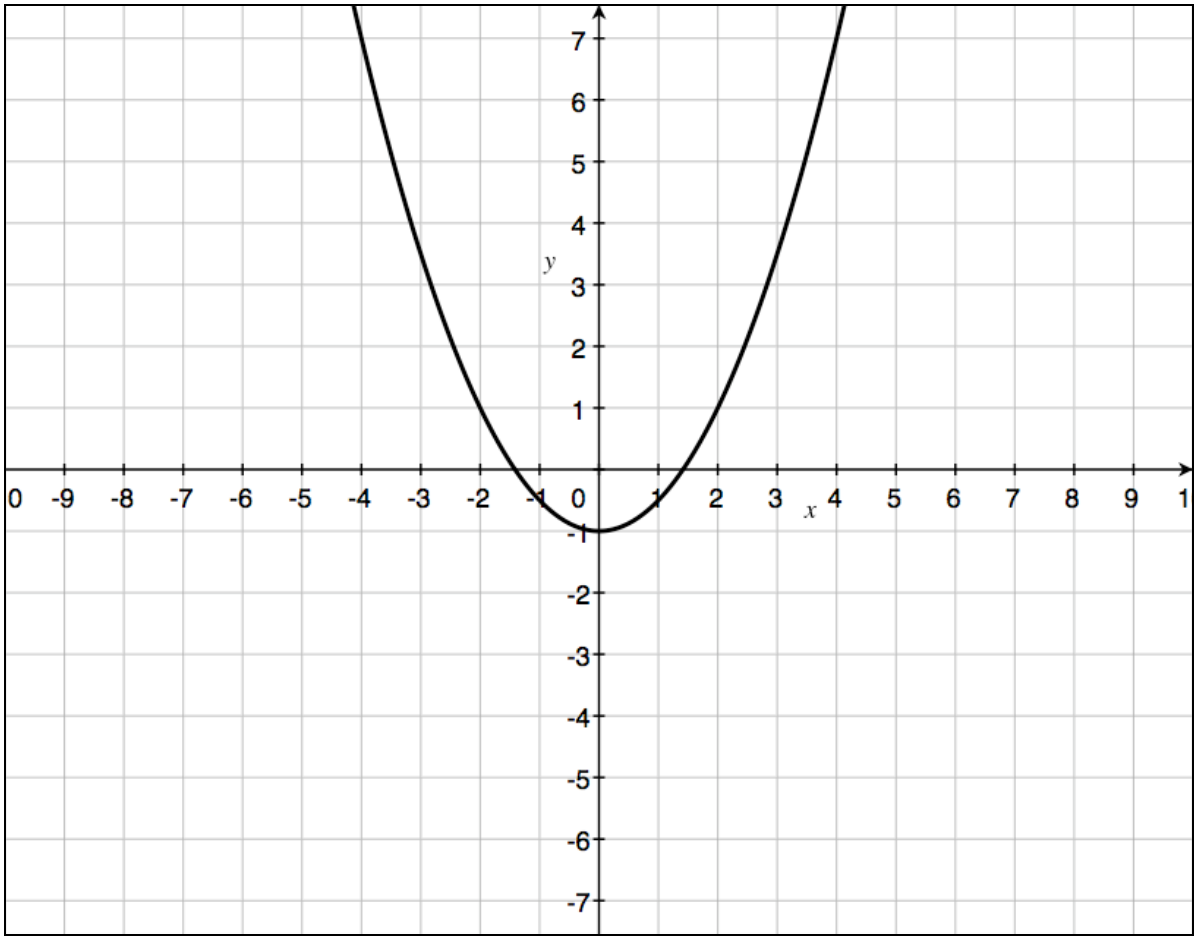
Is $f(x)$ an exponential growth or decay function?

What is the y-intercept?

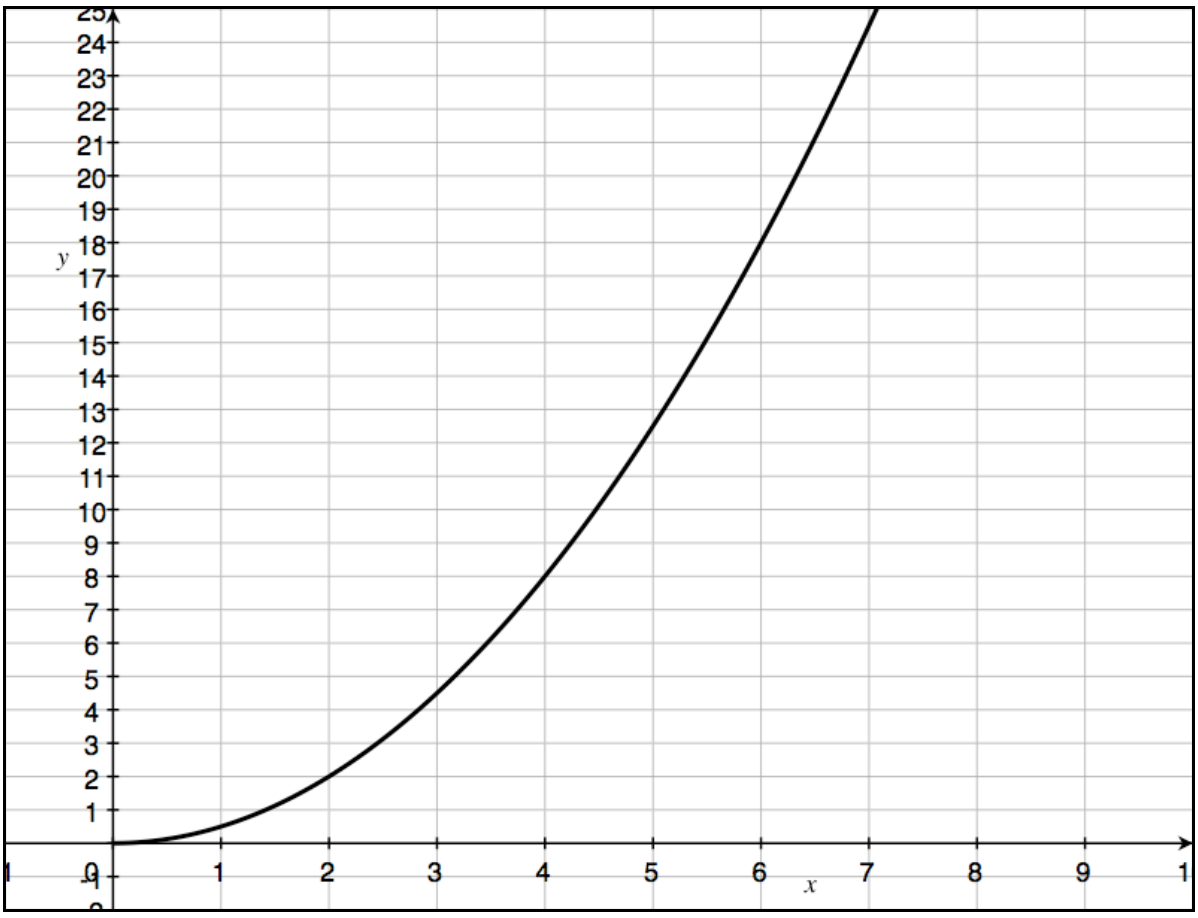
What is the asymptote for $f(x)$?

Students will be able to find the average rate of change of a function given a graph, a table and an equation.

Find the average rate of change for f(x) for the interval from x=2 to x=4



1) Consider the following graph of the number of students checked at the front gate versus time (in minutes). Use it to answer the following questions. Be sure to include proper units if appropriate.



a. Is the function increasing, decreasing or neither?

b. What is the average rate of students checked per minute at the gate between $x = 0$ and $x = 4$?

c. What is the average rate of students checked per minute at the gate between $x = 2$ and $x = 6$?

Precalc – Exit Slip – 10/14/10

Name:_____ Period:_____

1) Consider the following problem (but do not solve it, yet):

Mr. Monte-Sano plays basketball in the alley with Karim. Karim gives Mr. Monte-Sano a 24 basket head start. Karim scores 7 baskets per minute while Mr. Monte-Sano scores only 3 baskets per minute. How many minutes will it take until Karim and Mr. Monte-Sano have the same number of baskets?

Circle the objective that the best fits the problem.

Students will be able to determine if a function is strictly increasing, decreasing or neither

Students will be able to translate between verbal descriptions and interval notation (and vice versa)

Students will be able to find the average rate of change of a function given a graph, a table and an equation

Students will be able to solve rate problems including problems with multiple rates.

Solve the problem below.