

Precalc Warm Up – 1/5/11

Name: _____

Period: _____

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

a. Find $f(3)$

b. Find $f(2)$

c. Find $f(4)$

d. Find $f(-2)$

Use your answers from a), b), c) and d) to help you fill in the blanks:

Why did Mr. Koethe run across 12th street?

He was 1_____ for work.

What did Ms. Keaton say to him when he came through the door?

“You’re no hero you’re just a big _____. Let me tell you your horrible
f_____, you’ll be fired on some future d_____.”

Precalc

Graphing Piecewise Functions

Name:_____Date:_____Period:_____

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

1) Consider the following scenario:

The line to get lunch in the cafeteria has 9 people in it at the beginning of lunch (time 0). The line grows longer for the first 4 minutes of lunch and at $x=4$ there are 25 students in line. After $x=4$ the line decreases until there are no more students in the line at $x=9$.

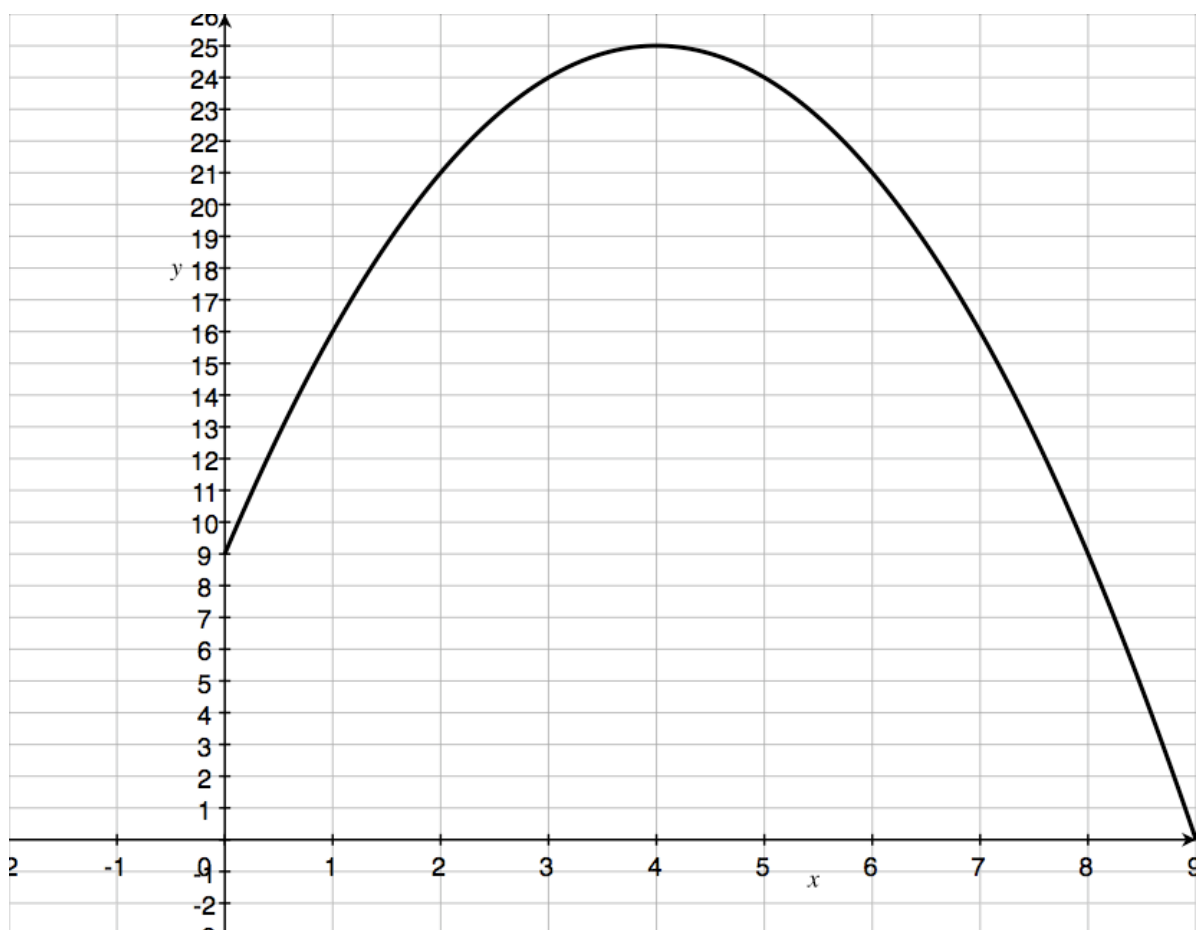
Use the graph to help you answer the following questions.

- a) How many students are in line at $x=4$?

- b) Is this function strictly increasing, strictly decreasing or neither?

- c) Choose the interval over which the function is decreasing.
 - a. $(4,9)$
 - b. $(6,8)$
 - c. $(2,6)$

d. (1,4)



x	f(x)
0	9
1	16
2	21
3	24
4	25
5	24
6	21
7	16
8	9
9	0

$$f(x) = -x^2 + 8x + 9$$

Use your three resources to help you answer the following problems. But, you may use each resource only once.

1) Find the average rate of change of $f(x)$ from $x=0$ to $x=4$

2) Find the average rate of change of $f(x)$ from $x=5$ to $x=7$

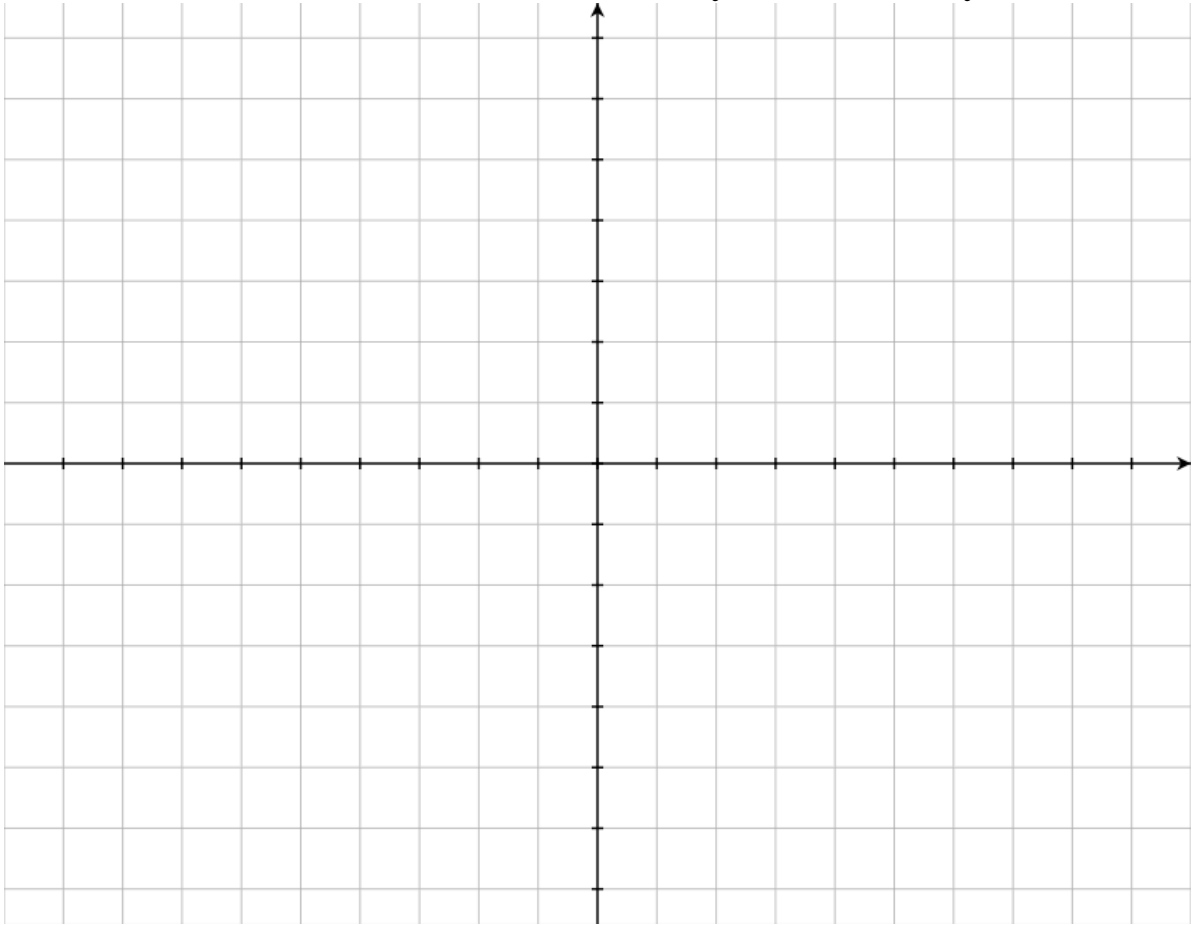
3) Find the average rate of change of $f(x)$ from $x=1$ to $x=3$

The number of objectives mastered by students in precalculus is modeled by the function $f(x) = 0.5x^2 - 4x + 10$ where x is the week of the quarter and $f(x)$ is the number of objectives mastered.

Find the average rate of change of the number objectives mastered from $x=4$ to $x=8$.

The following scenario represents a piecewise function. Sketch the function on the graph below:

The line in the morning at the gate starts with 0 students in it at time 0. From minute zero to minute 3 the line increases by 2 students every minute. From minute 3 to minute 7 the line remains at 6 students. From minute 7 to minute 9 the line decreases by 3 students every minute.



Find the average rate of change of the number of students in line from minute 2 to minute 5.

Precalc – Exit Slip – 1/5/11

Name: _____

Period: _____

- 1) Find the average rate of change of the function $f(x) = x^2 + 2x - 3$ from $x=2$ to $x=5$