

# Precalc Warm Up – 1/11/11

Name: \_\_\_\_\_ Period: \_\_\_\_\_

1) Which notation means “x is less than 5?”

a.  $(5, \infty)$

b.  $[5, \infty]$

c.  $[-\infty, 5]$

d.  $(-\infty, 5)$

2) Which notation means “x is between 9 and 15 including 9 but not including 15?”

a.  $(9, 15)$

b.  $[9, 15]$

c.  $[9, 15)$

d.  $(9, 15]$

3) Mr. Monte-Sano and Ms. Cuellar shoot baskets in the alley. Ms. Cuellar scores at a rate of 10 baskets per minute and Mr. Monte-Sano scores baskets at a rate of 4 baskets per minute. How many baskets will Ms. Cuellar score if she shoots for 5 minutes?

# Precalc

## Rates Problems Mini Review

### Increasing/Decreasing Mini Review

Name:\_\_\_\_\_Date:\_\_\_\_\_Period:\_\_\_\_\_

Students will be able to solve rates problems
---

Consider the scenario from the Warm up: Mr. Monte-Sano and Ms. Cuellar shoot baskets in the alley. Ms. Cuellar scores at a rate of 10 baskets per minute and Mr. Monte-Sano scores baskets at a rate of 4 baskets per minute.

Combining Rates Problems

Difference in Rates Problems

### Practice

Two trains depart at the same time, one from DC and another from New York. The distance between New York and DC is 360 miles. The train leaving DC travels at 50 miles per hour and the train leaving New York travels at 40 miles per hour. How long will it take before the two trains meet?

Ms. Heinegg and Ms. Hanna have a running race. They know that Ms. Hanna is faster so Ms. Heinegg gets a head start. Ms. Hanna runs at a rate of 8 meters/second and Ms. Heinegg runs at a rate of 6 meters/second. How long will it take Ms. Hanna to catch Ms. Heinegg if Ms. Heinegg gets a 10 meter head start?

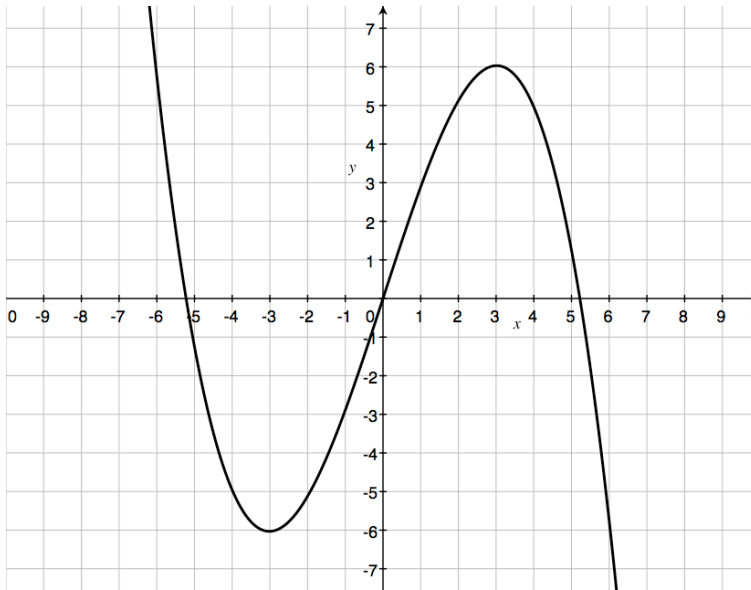
Two planes depart at the same time, one from LA and another from DC. The distance between New York and DC is 3200 miles. The plane leaving DC travels at 300 miles per hour and the train leaving LA travels at 500 miles per hour. How long will it take before the two planes meet?

Two cafeteria workers serve lunches to students. The first server serves at a rate of 6 students per minute and the second serves students at a rate of 4 students per minute. How long will it take them to serve 410 students?

After painting together all day Spears and McCarty are sick of each other. When they finish they walk in opposite directions. Spears walks at a rate of 8 meters per second and McCarty walks at a rate of 7 meters per second. How long will it take until they are 1500 meters apart?

After painting together all day Spears and McCarty are sick of each other. When they finish they walk in opposite directions. Spears walks at a rate of 8 meters per second and McCarty walks at a rate of 7 meters per second. How far apart are they after 50 seconds?

Students will be able to identify if a function is increasing or decreasing.



Positive and increasing

Positive and decreasing

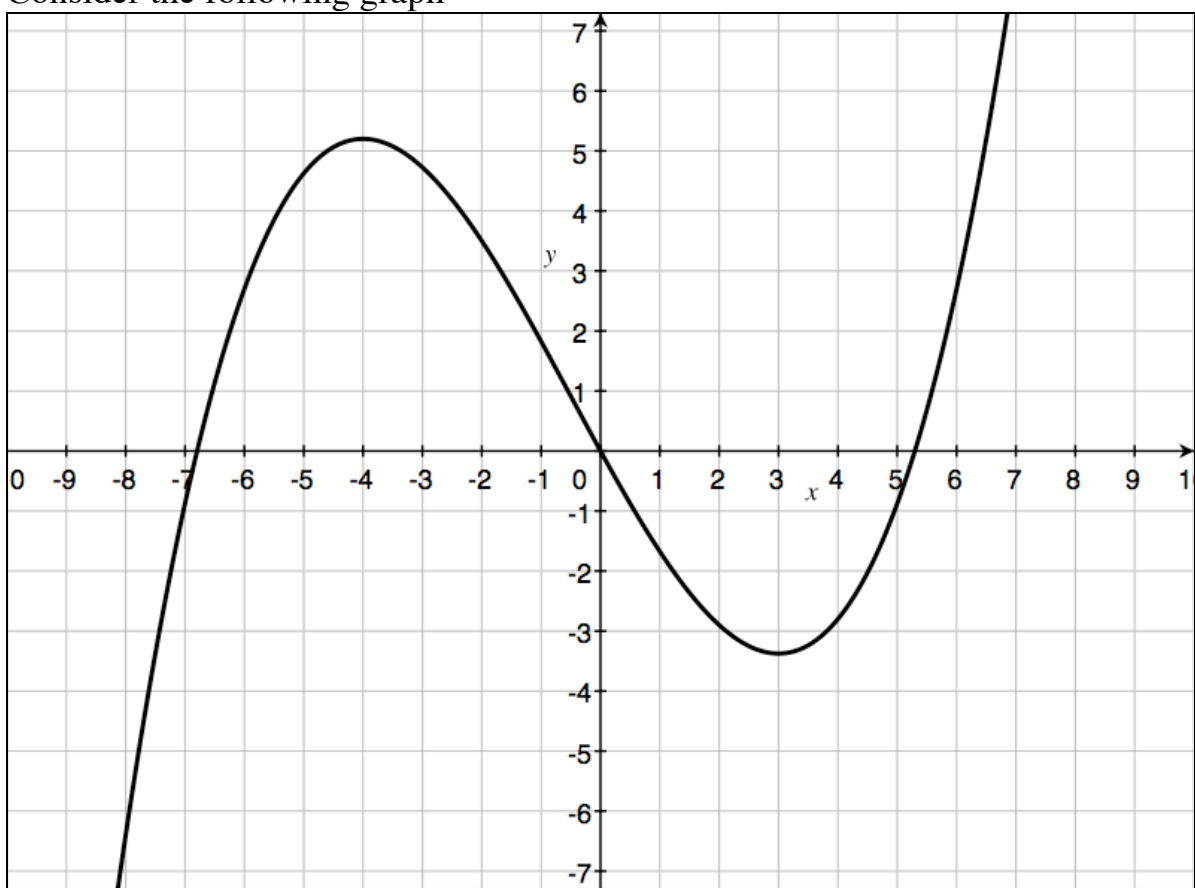
Negative and Increasing

Negative and decreasing

$$f(x) = 2^x - 3$$

Practice

Consider the following graph



Identify if  $f(x)$  is positive or negative AND increasing or decreasing

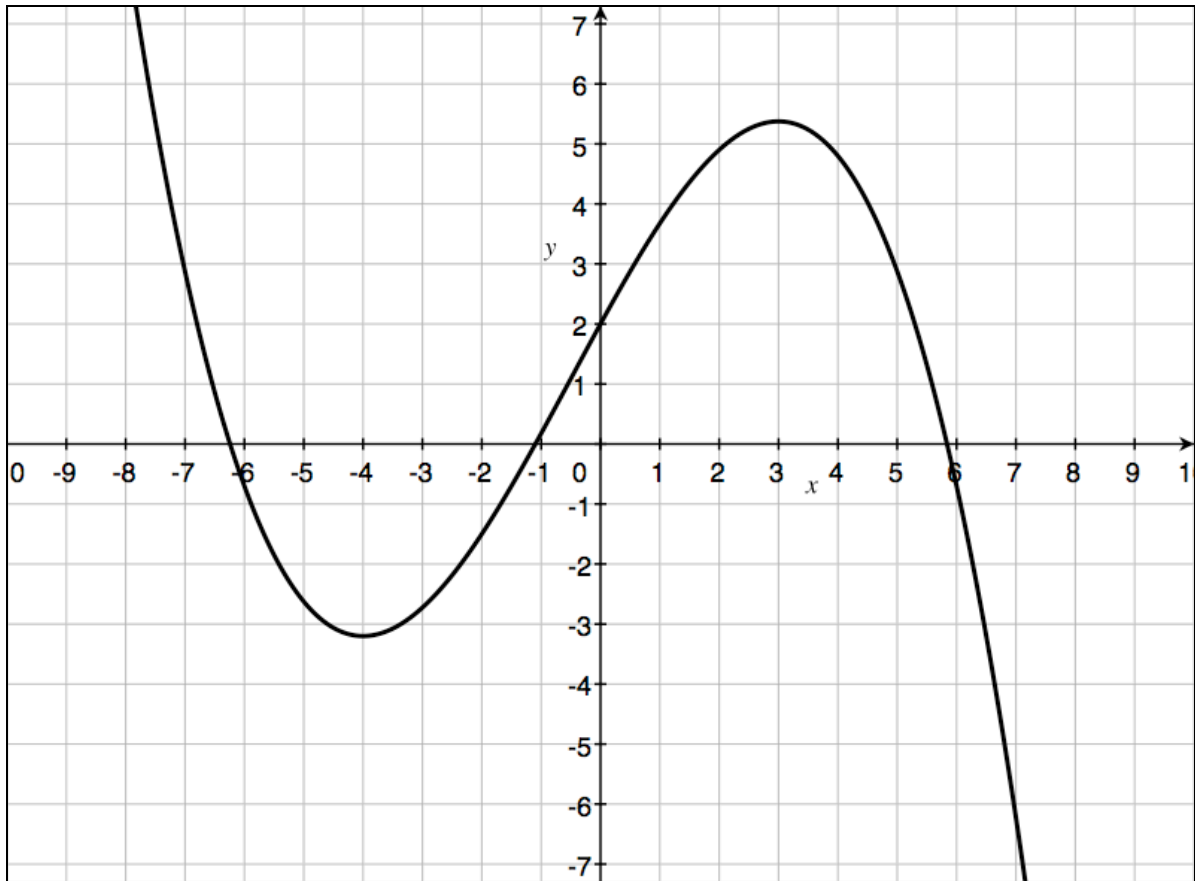
At  $x=-8$

At  $x=2$

At  $x=6$

At  $x=-3$

Use the following graph to determine if the function is positive or negative and increasing or decreasing at the given x-value.



1) at  $x = -5$

2) at  $x = -2$

3) at  $x = 0$

4) at  $x = 4$

# Precalc

## 1/11/11 Homework

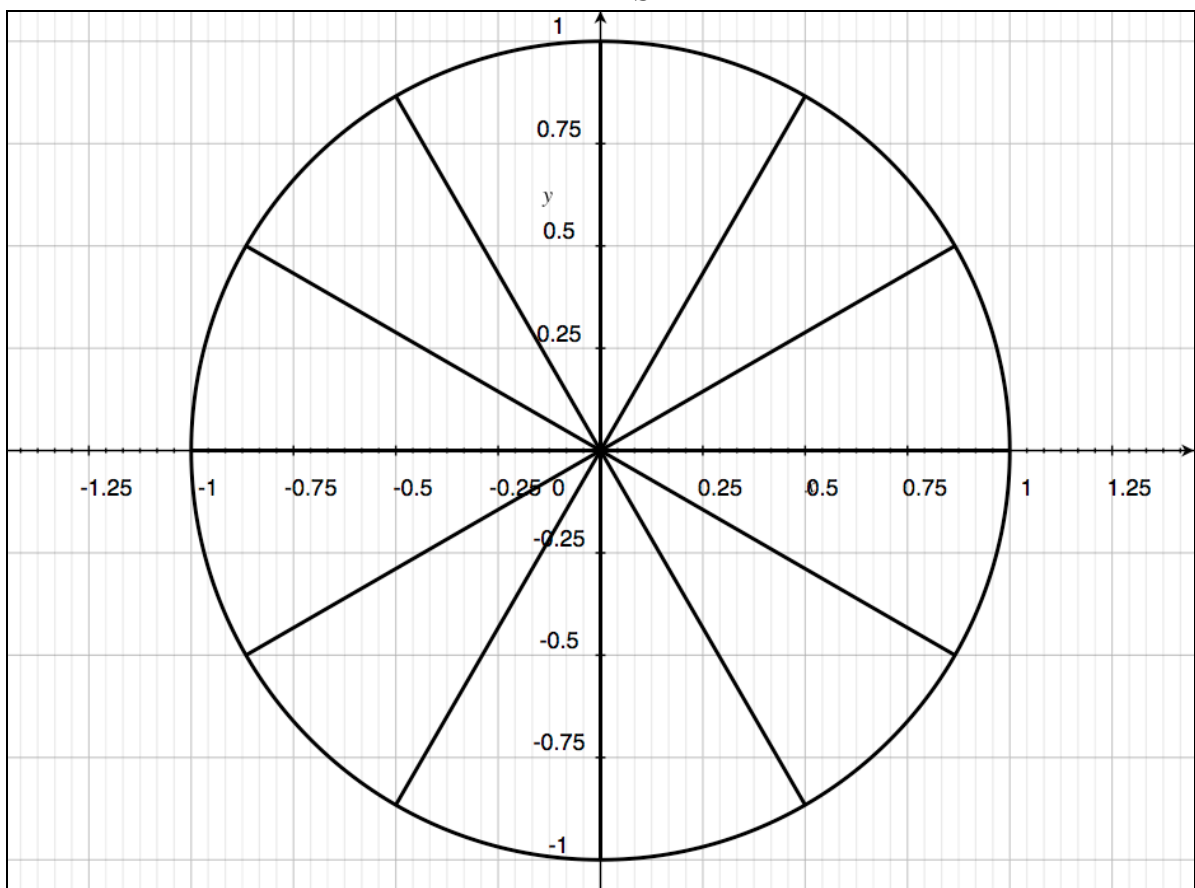
Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_

What is the reference angle for  $240^\circ$ ?

Sketch the angle  $240^\circ$  in the unit circle. Find the x,y coordinates of the point where the angle intersects with the unit circle.



# Resource Sheet



	$30^\circ$	$45^\circ$	$60^\circ$
$\sin \theta =$	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$
$\cos \theta =$	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$
$\tan \theta =$	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$

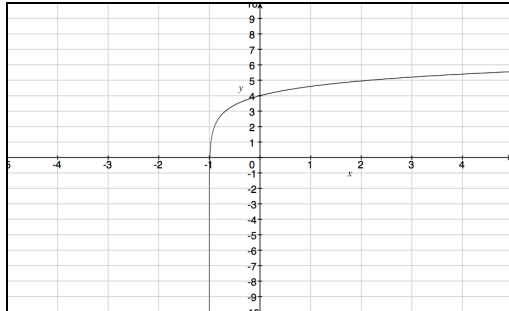
# Precalc – Exit Slip – 1/11/11

Name: \_\_\_\_\_

Period: \_\_\_\_\_

- 1) Mr. Monte-Sano runs at 8 m/s and Ms. Keaton runs at 10 m/s. How far away from each other will they be if they run in opposite directions for 5 seconds?

- 2) Which describes the function below at  $x=1$



- a) Positive and increasing
- b) Positive and decreasing
- c) Negative and increasing
- d) Negative and decreasing