

Precalc Warm Up – 9/7/10

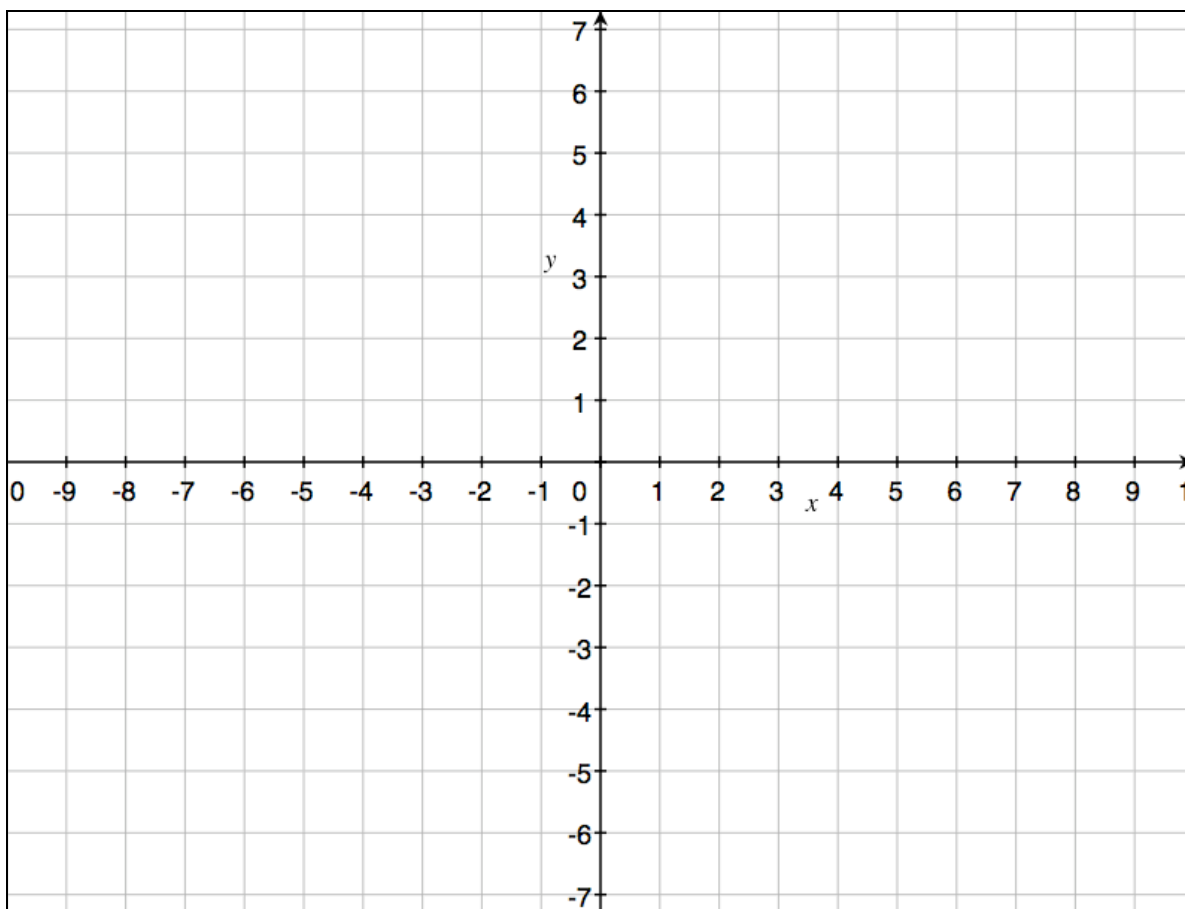
Name: _____

Period: _____

1) Graph the following two functions.

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

$$g(x) = -x + 3$$



Precalc

MASTERY CHECK Preparation

Name: _____ Date: _____ Period: _____

How do you feel about each objective? Place yourself on the continuum

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

<----Confused-----Unsure-----Confident---->

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

<----Confused-----Unsure-----Confident---->

3) Students will be able to identify intervals on which functions are increasing and decreasing (by graph).

<----Confused-----Unsure-----Confident---->

4) Students will be able to turn a verbal model relating two quantities into a graph (for a linear relationship).

<----Confused-----Unsure-----Confident---->

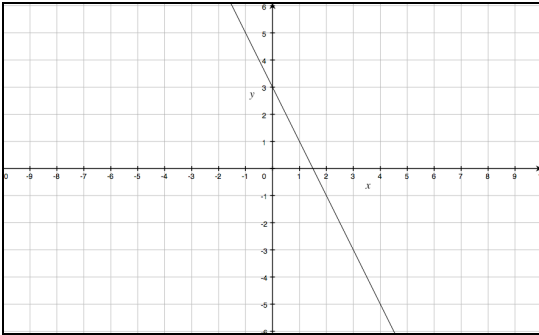
5) Students will be able to sketch a piecewise function given a function or construct an equation of a piecewise function given a graph

<----Confused-----Unsure-----Confident---->

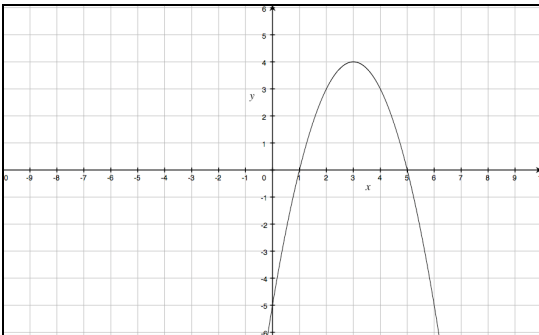
1) Students will be able to determine if a function is strictly increasing, decreasing or neither

Problems

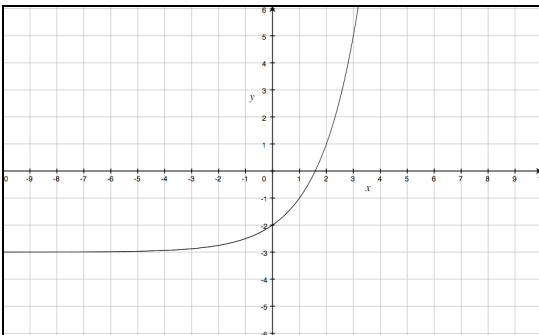
1) Label the following functions as strictly increasing, strictly decreasing or neither.



a) _____



b) _____



c) _____

Resources:

Increasing/Decreasing by Graph Skill Builder 8/23 -

http://chavezmath.wikispaces.com/file/view/Precalc+08_23.pdf

Increasing/Decreasing by Table Skill Builder 8/24 -

http://chavezmath.wikispaces.com/file/view/Precalc+08_24.pdf

Internet - <http://www.youtube.com/watch?v=aJuJOB6NTuc>

Highly Proficient Problems

- 1) The following table represents the x and y -values for the function $f(x)$. Choose the ONE value that would make $f(x)$ neither strictly increasing nor strictly decreasing.

x	$f(x)$
-1	7
0	2
1	
2	-8
3	-13

- a. 2
- b. -3
- c. 0
- d. -7

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

Problems

- 1) Translate the following verbal descriptions into interval notation (you have your choice between greater than less than and brackets)

a. x is greater than 5

b. x is between -2 and 7 including -2 and 7

c. x is between 3 and 12 including 3 but not including 12

- 2) Translate the following interval notation into a verbal description.

a. $x \leq -3$

b. $(0, 500)$

c. $(12, 25]$

Resources:

Interval Notation Skill Builder 08/25 -

http://chavezmath.wikispaces.com/file/view/Precalc+08_25.pdf

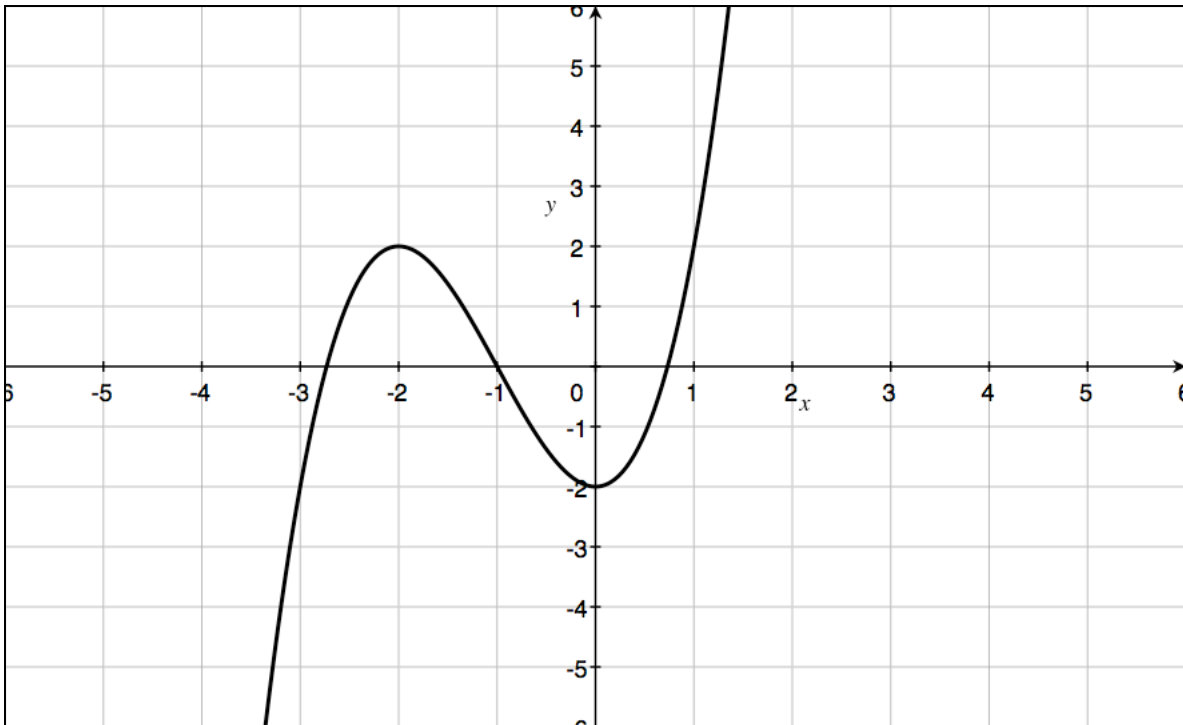
Internet –

<http://mathforum.org/library/drmath/view/53050.html>

<http://www.youtube.com/watch?v=gH1BBpZNfsI>

3) Students will be able to identify intervals on which functions are increasing and decreasing (by graph).

- 1) State the intervals over which the following function is increasing or decreasing.



Increasing:

Decreasing:

Resources:

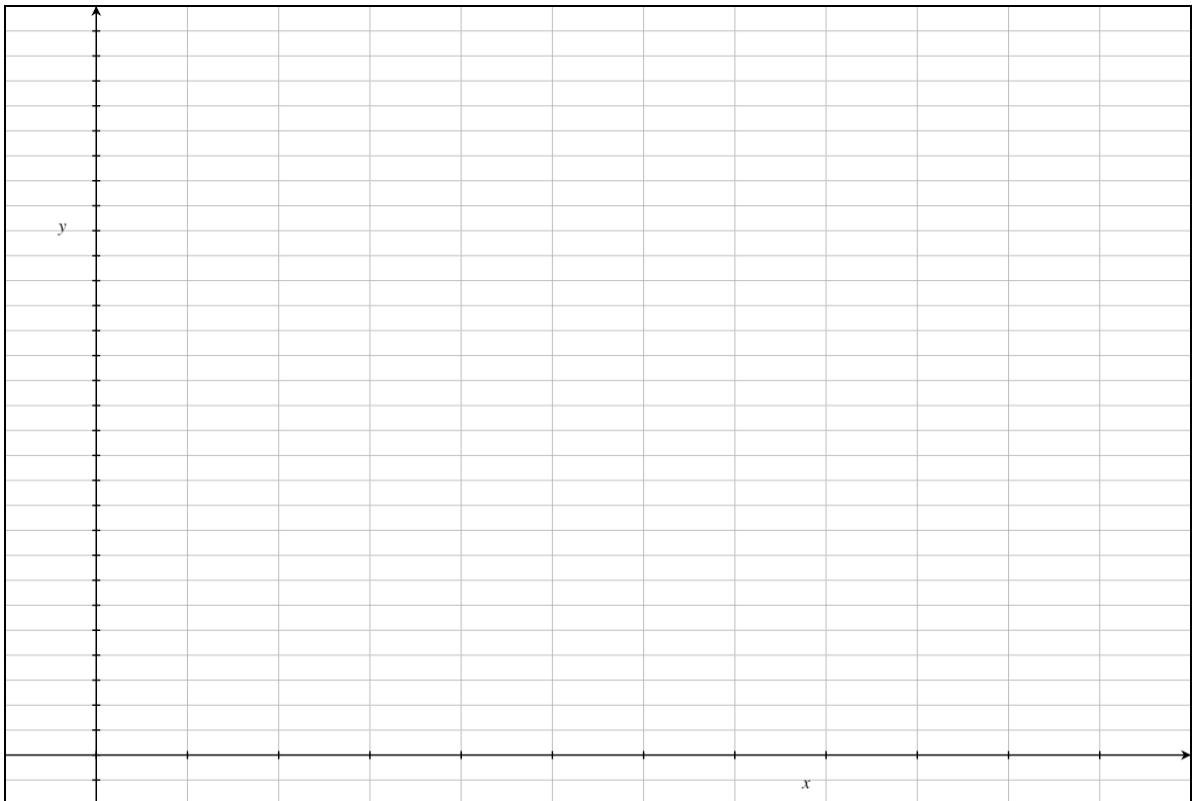
Identifying Increasing/Decreasing Concept Builder 08/26 -

http://chavezmath.wikispaces.com/file/view/Precalc+08_26.pdf

4) Students will be able to turn a verbal model relating two quantities into a graph (for a linear relationship).

1) Turn the following verbal model into a graph.

The number of students who enroll at Chavez depends on the number of bus advertisements that Chavez buys. If Chavez buys no ads then 150 students enroll. For every 10 ads that Chavez buys another 25 students enroll at Chavez.



Resources:

Representing the World Concept Builder 08/30 -

http://chavezmath.wikispaces.com/file/view/Precalc+08_30.pdf

5) Students will be able to sketch a piecewise function given a function or construct an equation of a piecewise function given a graph

Graph the following piecewise functions on a separate piece of graph paper.

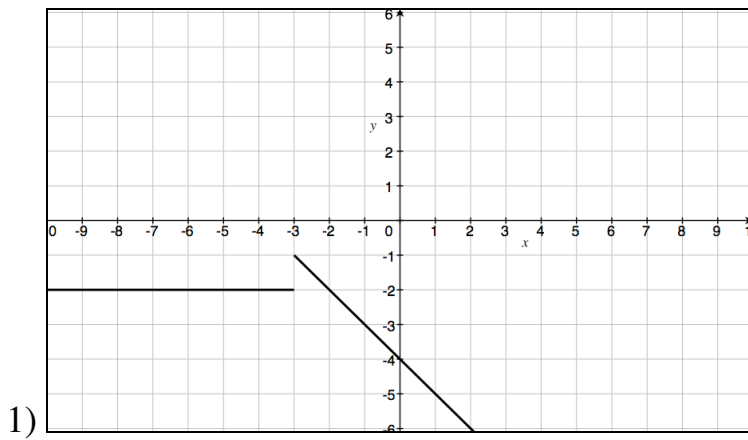
$$1) f(x) = \begin{cases} 3, & 0 \leq x \leq 4 \\ 5, & 4 < x \leq 6 \\ 7, & x > 6 \end{cases}$$

$$2) f(x) = \begin{cases} 2x, & x < 3 \\ x, & x \geq 3 \end{cases}$$

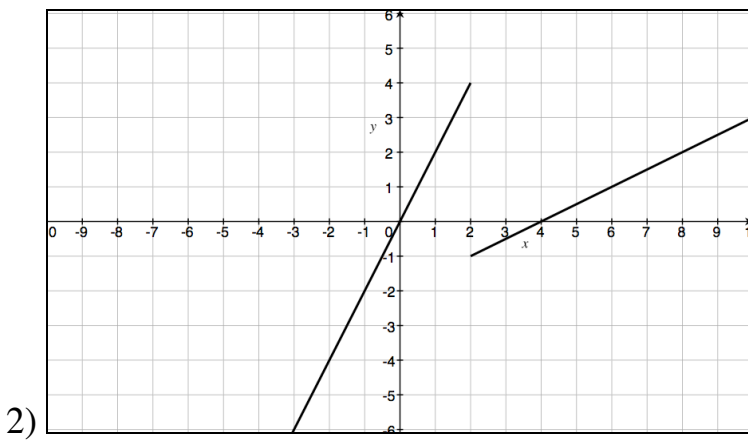
$$3) f(x) = \begin{cases} -x + 4, & x < -2 \\ 4x - 6, & x \geq 0 \end{cases}$$

$$4) f(x) = \begin{cases} 1, & 0 \leq x \leq 3 \\ 2x, & 3 < x \leq 6 \end{cases}$$

Convert the following graphs of piecewise functions into equations.

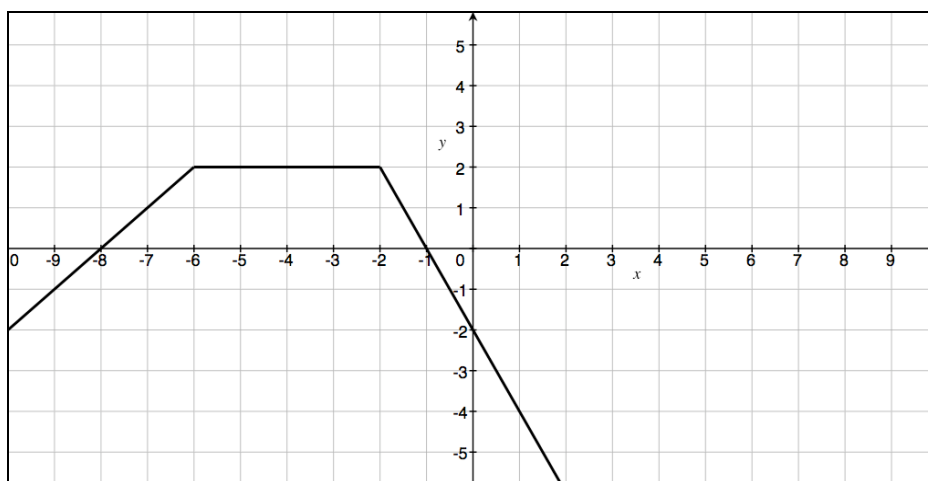


Equation:



Equation:

3)



Equation:

Resources:

Piecewise Functions Skill Builder 8/31 -

http://chavezmath.wikispaces.com/file/view/Precalc+08_31.pdf

Piecewise Functions Practice 9/3 -

http://chavezmath.wikispaces.com/file/view/Precalc+09_03.pdf

Equations of Piecewise Functions Skill Builder 9/1 -

http://chavezmath.wikispaces.com/file/view/Precalc+09_01.pdf

Internet

<http://mathforum.org/library/drmath/view/53278.html>

<http://www.youtube.com/watch?v=eWo8tWuaGfU>

HIGH PROFICIENCY QUESTIONS

1) Consider the following piecewise function:

$$f(x) = \begin{cases} 2x + a, & x \leq 3 \\ -x + 13, & x > 3 \end{cases}$$

- a. If $a = -4$ do the two pieces of the function meet each other at $x = 3$?
- b. Find a value of a that makes the two pieces of the function meet each other at $x = 3$.
- c. Graph the resulting function on a piece of graph paper.
- d. State the intervals on which the resulting function is increasing/decreasing.