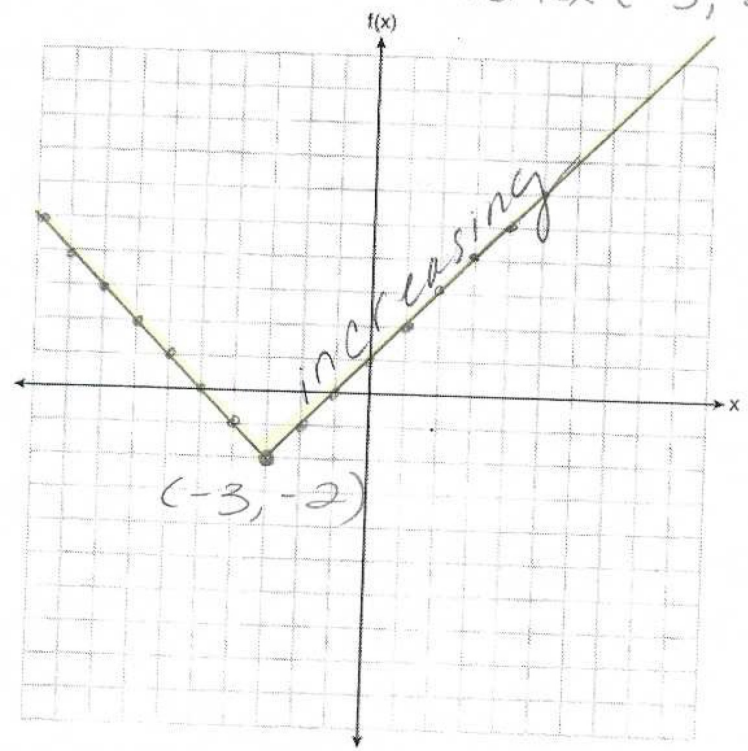


# HW: Graphs of Functions

Created for you by Ms. Nhotsoubanh

1. On the set of axes below, graph  $f(x) = |x + 3| - 2$ . Don't forget the table.  
vertex  $(-3, -2)$



x	y
-7	2
-6	1
-5	0
-4	-1
-3	-2
-2	-1
-1	0
0	1
1	2

State the range of the function. State the domain over which the function is increasing.

range:  $y \geq -2$  or  $[-2, \infty)$

Domain increasing:  $x \geq -3$

Name: Key

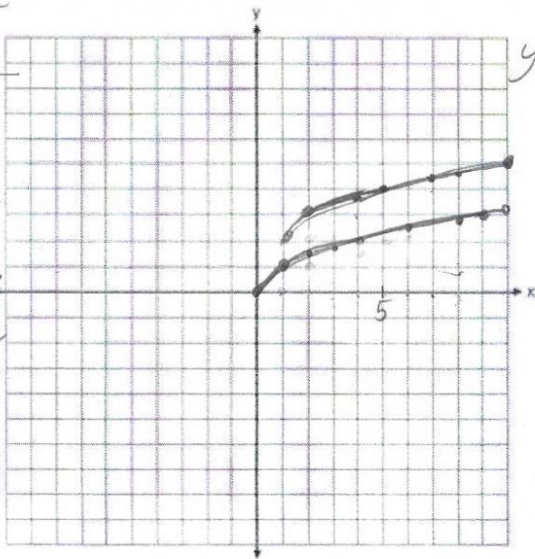
Alg. 1H - March 11

Glue on page 79

2. Draw and label the graphs of  $y = \sqrt{x}$  and  $y = \sqrt{x-1} + 2$  on the set of axes below. Show your table of values.

$$y = \sqrt{x}$$

x	y
0	0
1	1
2	1.4
3	1.7
4	2
6	2.4
8	2.8
9	3



$$y = \sqrt{x-1} + 2$$

x	y
1	2
2	3
4	3.7
5	4
7	4.4
8	4.6
10	5
12	

Describe the transformation between the parent function and the new function.

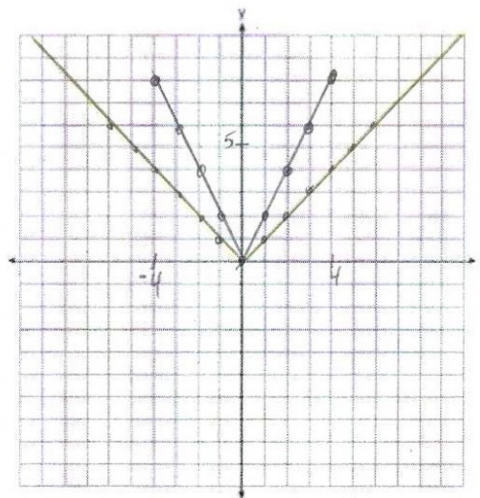
The function moved 1 unit to the right and 2 units up.

State the maximum for the parent function: none  
 State the minimum for the parent function: at (0,0)  
 State the domain for the parent function:  $x \geq 0$   
 State the range for the parent function:  $y \geq 0$

3. On the set of axes below, graph and label the equations  $y = |x|$  and  $y = 2|x|$  for the interval  $-4 \leq x \leq 4$ . Show your table of values.

$$y = |x|$$

x	y
-4	4
-3	3
-2	2
-1	1
0	0
1	1
2	2
3	3
4	4



x	y
-4	8
-3	6
-2	4
-1	2
0	0
1	2
2	4
3	6
4	8

Explain how changing the coefficient of the absolute value from 1 to 2 affects the graph.

It made the function narrower.

State the maximum for the parent function: none  
 State the minimum for the parent function: (0,0)  
 State the domain for the parent function: all real #s  
 State the range for the parent function:  $0 \leq y \leq 8$