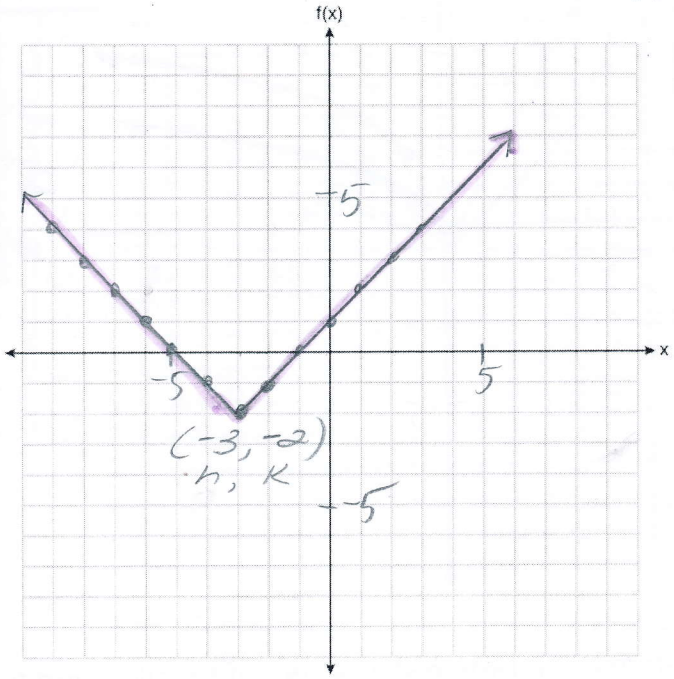
HW: Graphs of Functions

Created for you by Ms. Nhotsoubanh

1. On the set of axes below, graph $f(x) = |x + 3| - 2$.

(-3, -2) vertex

h k



x	f(x) y
-6	1
-5	0
-4	-1
vertex -3	-2
-2	-1
-1	0
0	1

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

$y \geq -2$ ← range

$x \geq -3$ ← domain where the function is increasing

Name: Key

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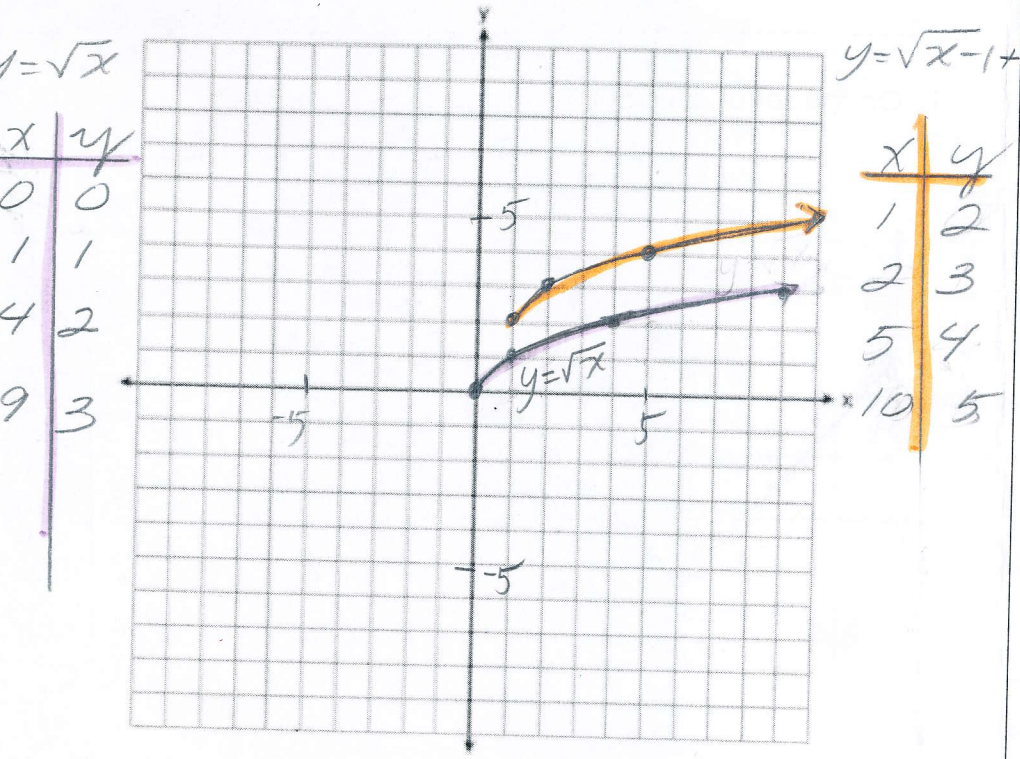
2. Draw and label the graphs of $y = \sqrt{x}$ and $y = \sqrt{x-1} + 2$ on the set of axes below. Show your table of values.



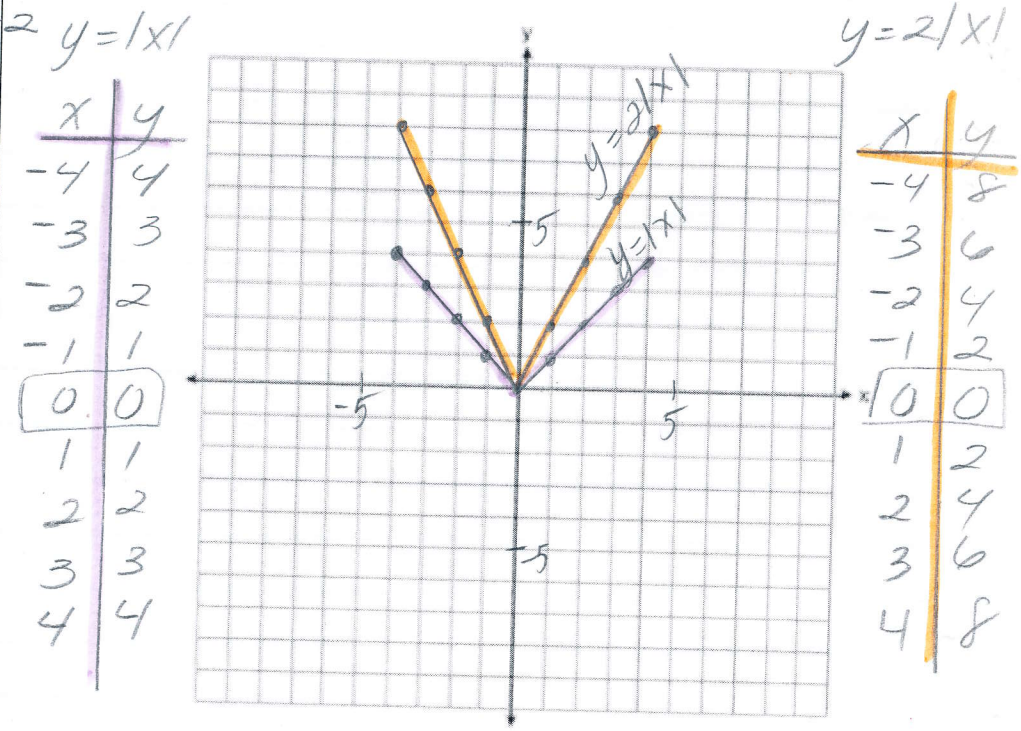
Describe the transformation between the parent function and the new function.

The new function shifted over to the right one unit and moved up 2 units.

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

right 1 up 2

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



* graphs do not need arrows at the end since the intervals were given.

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

The graph got narrower.