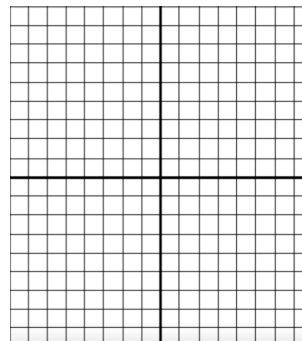
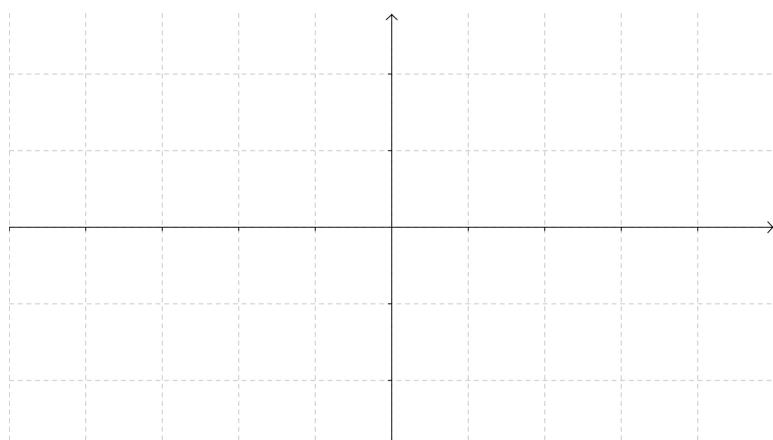


1. Graph $y = \sqrt{x}$.
2. Graph $y = -\sqrt{x}$. Describe what happens.

$$(x,y) \rightarrow (x, -y)$$



3. Graph $y = \sin x$, $y = 2\sin x$ and $y = .5\sin x$. Describe what happens.



$$y = \sin x$$

vs.

$$y = 2\sin x$$

$$(x, y)$$

 \rightarrow

$$(x, 2y)$$

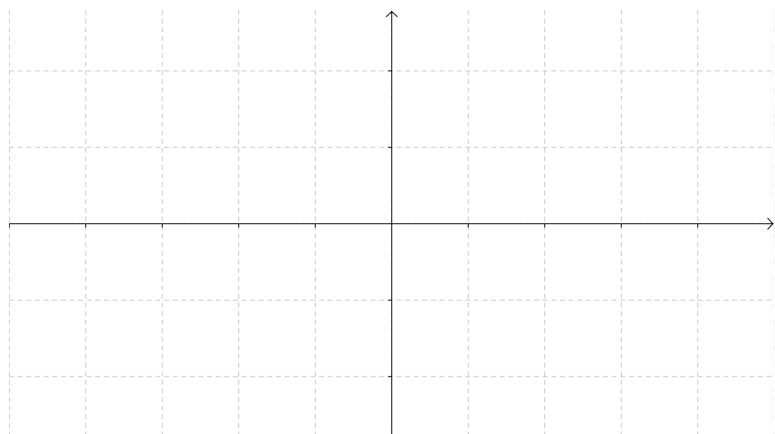
Summary of $a \bullet f(x)$:

If $a > 1$,

If $0 < a < 1$,

If $a < 0$

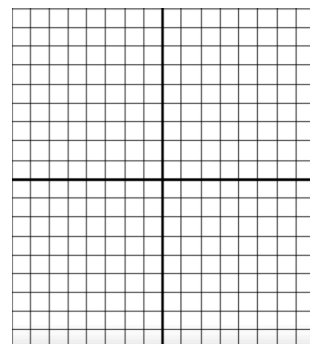
7. Try graphing $y = \sin x$, $y = \sin(2x)$ and $y = \sin(.5x)$.
8. Describe how “b” transforms the graph of $y = \sin x$.



$y = \sin x$ vs. $y = \sin(x/2)$ or $y = \sin(.5x)$

(x, y) → $(2x, y)$

9. Now graph $y = \sqrt{x}$ and $y = \sqrt{-x}$. How did a negative b value change your graph?



Summary of $y = f(b \bullet x)$:

If $b > 1$:

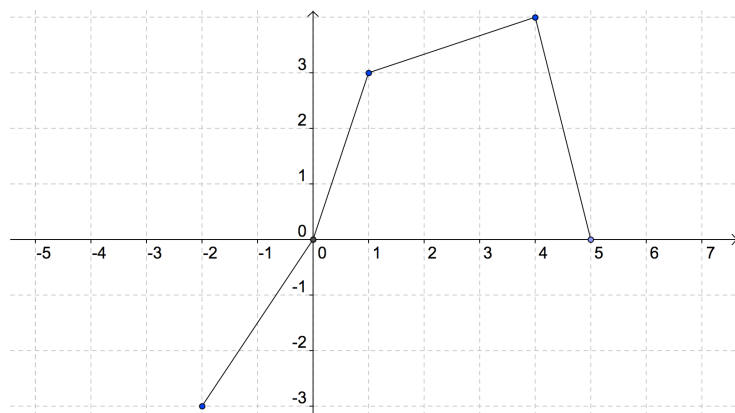
If $0 < b < 1$:

If $b < 0$:

15. Describe the transformations to the square root parent function that take place. Be sure to list the transformations in the correct sequence. $f(x) = 3\sqrt{x+1} - 4$

$(x,y) \rightarrow (\quad , \quad)$

17. Use the graph of $g(x)$ to sketch $f(x) = -2g(x-1) - 3$ below.



For each point:

$(x,y) \rightarrow (x + 1, -2y - 3)$

