

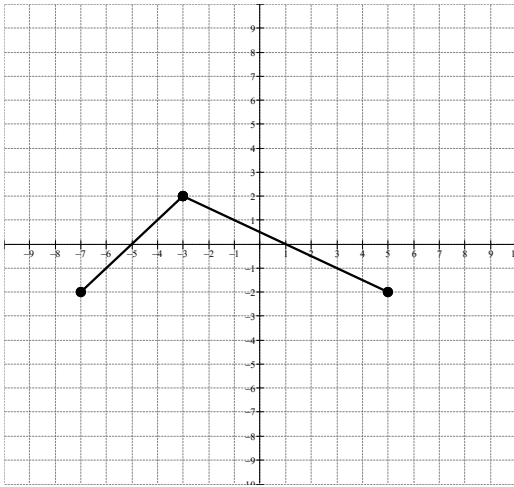
Chapter 1 and 2 Assignment

Name: _____

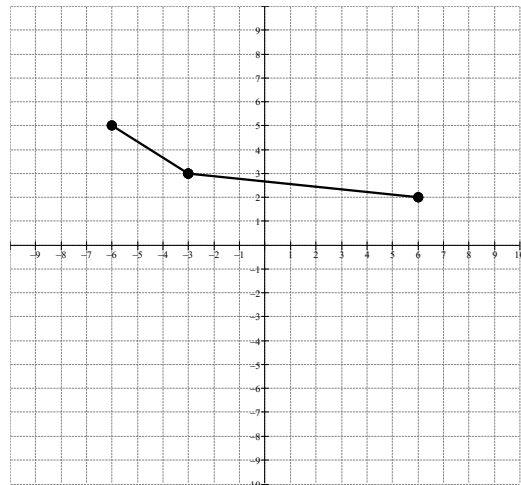
Block: _____

1. Sketch the graph of the indicated transformation for each function.

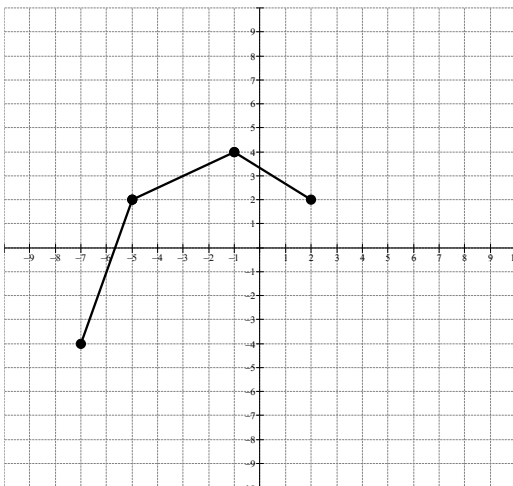
(a) $y = -3f(x + 1) - 3$



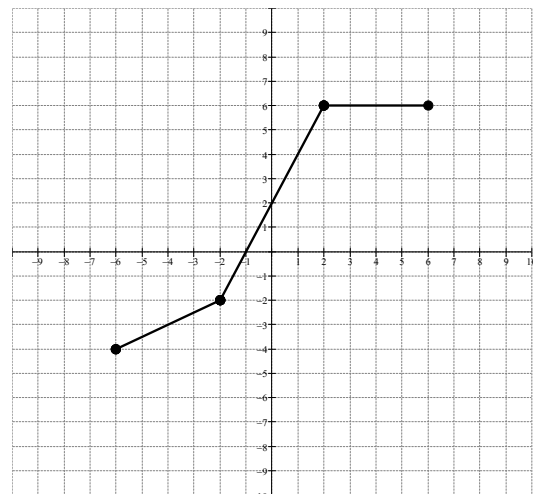
(b) $y = -f(x + 2) + 1$



(c) $y = f(-x - 2)$



(d) $y = \frac{1}{2}f(2(x - 3)) + 4$



2. Given the equation $f(x) = x^2 + 5x - 6$, find the zeros of:

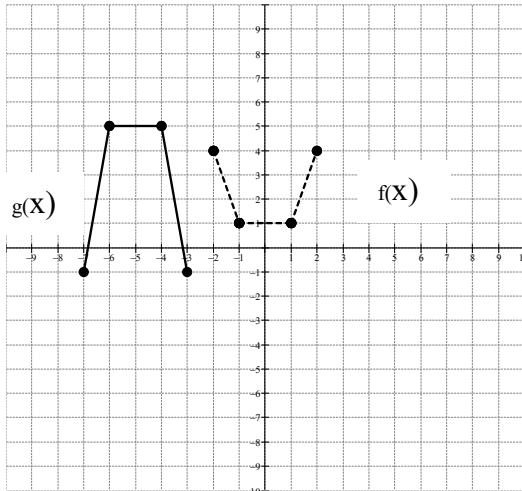
(a) $f\left(\frac{1}{2}x\right)$

(b) $3f(2x)$

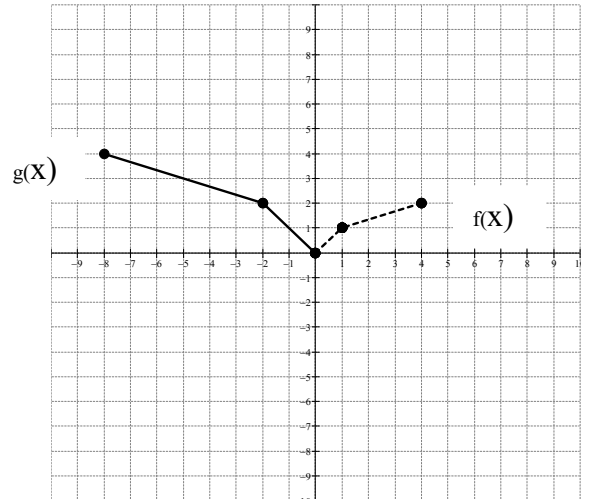
(c) $-f(x)$

3. Determine an equation for $g(x)$ of the form $y - k = af(b(x - h))$ given the graphs of $y = f(x)$ and the transformed function $y = g(x)$. $f(x)$ is old and $g(x)$ is new.

(a)



(b)



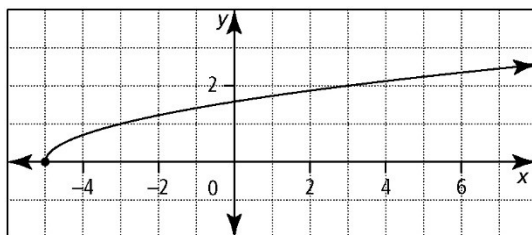
4. If $(4, -3)$ is a point on the graph of $y = f(x)$, what must be the coordinates of the point after the graph undergoes the transformation

(a) $y = f(2x + 10)$

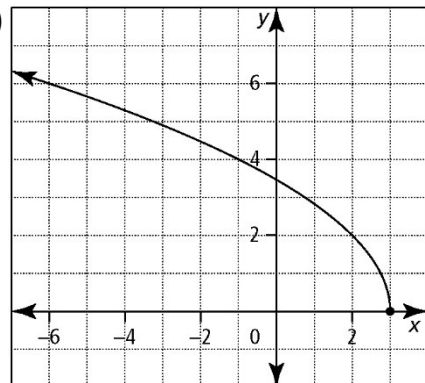
(b) $y - 2 = 2f(-x - 3)$

5. For each function, write an equation of a radical function of the form $y = a\sqrt{b(x - h)} + k$.

a)

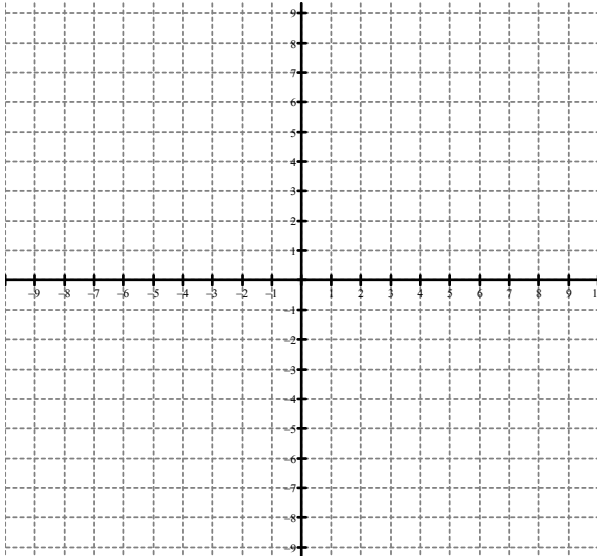


b)

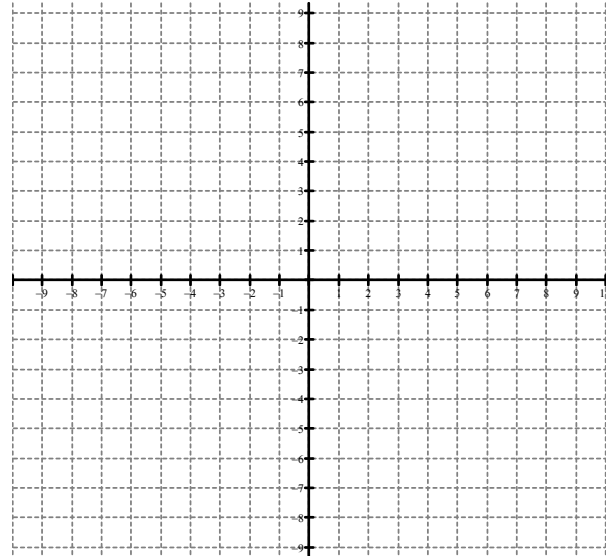


6. Sketch the graph of each function using transformations.

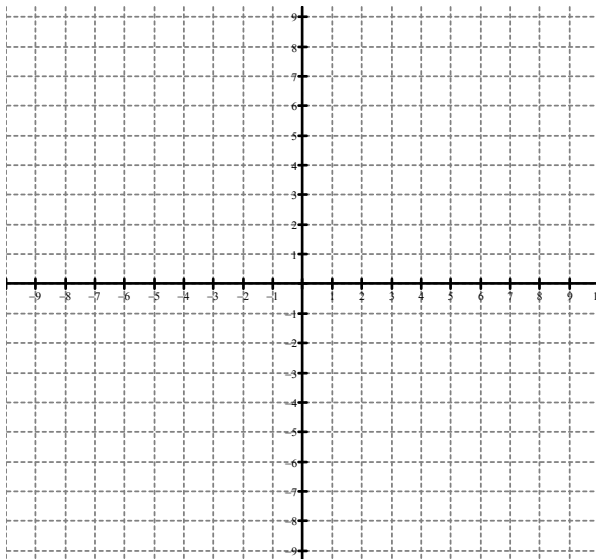
a) $y = 2\sqrt{x-4} - 5$



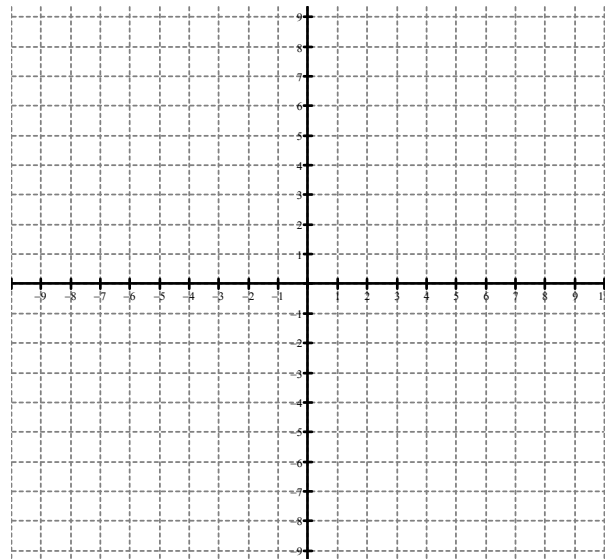
b) $y = -3\sqrt{x} + 6$



c) $y = -\sqrt{0.5x} + 1$

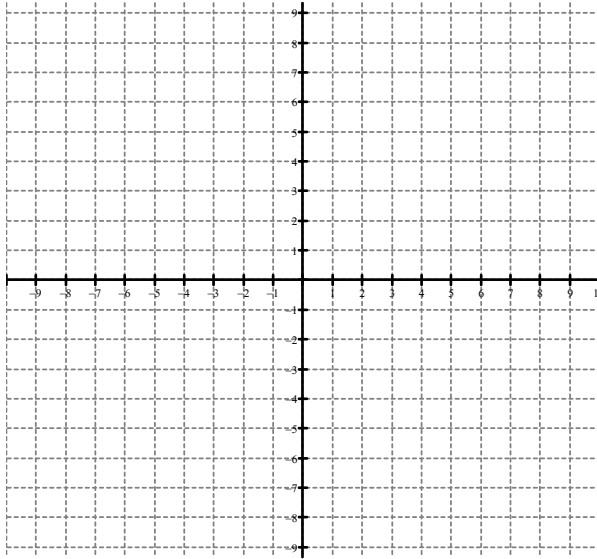


d) $y + 4 = \sqrt{2(x + 3)}$

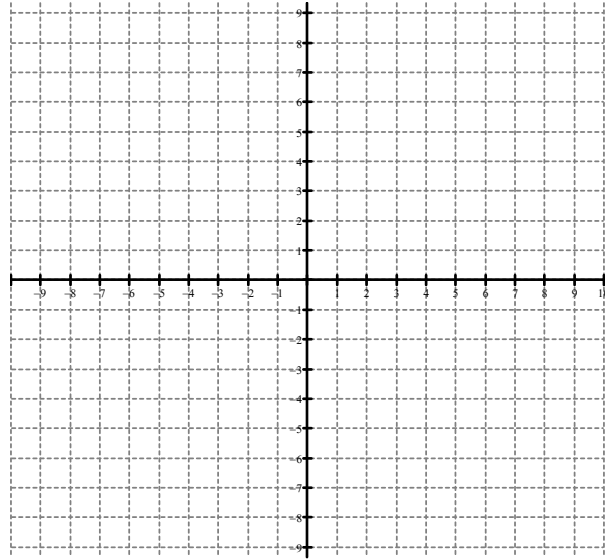


7. Solve each equation graphically.

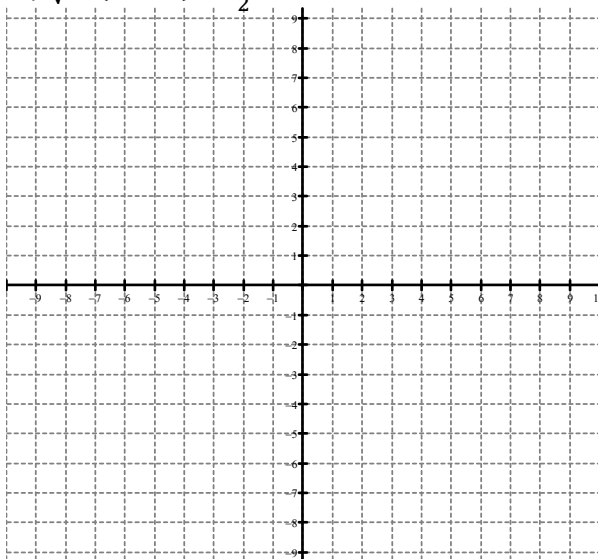
a) $\sqrt{x+3} = 3x - 1$



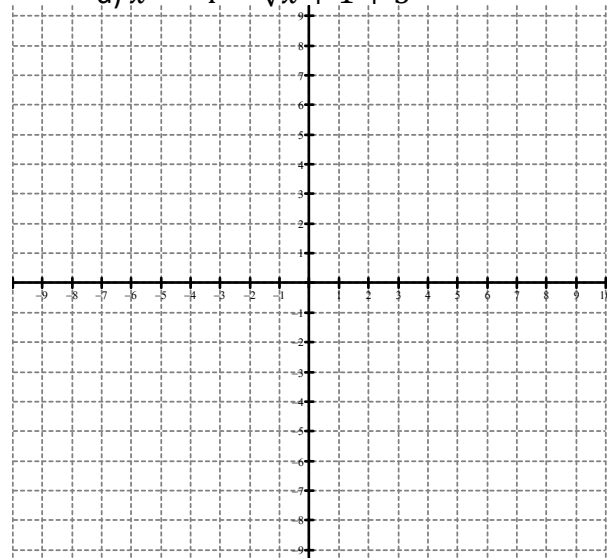
b) $-\sqrt{x+1} = \frac{1}{4}x + 3$



c) $\sqrt{-(x-3)} = \frac{1}{2}x + 6$



d) $x^2 - 4 = \sqrt{x+1} + 3$



8. Write a **single equation** for a radical function for each of the following with the given domain and range. (1 mark each)

(a) D: $\{x/x \geq -3, x \in \mathfrak{R}\}$
R: $\{y/y \leq 5, y \in \mathfrak{R}\}$

(b) D: $\{x/x \leq 9, x \in \mathfrak{R}\}$
R: $\{y/y \leq -7, y \in \mathfrak{R}\}$

9. The point (4, 10) is on the graph of the function $f(x) = k\sqrt{3(x-1)} + 4$. What is the value of k ?

10. Find the inverse of the functions

a) $f(x) = \frac{2}{3}x + 5$

b) $f(x) = \frac{3}{x+5}$

c) $f(x) = \frac{x}{x-2}$