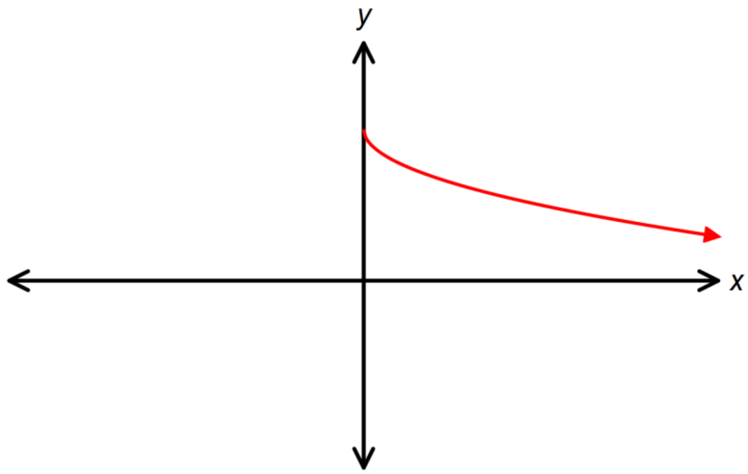
1. Which function best represents the graph shown below?

A) $y = \sqrt{-x} - 3$

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

C) $y = -\sqrt{x} - 3$

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



2. The graph of the function $y = \sqrt{x}$ is stretched horizontally by a factor of 3 and translated 4 units left. What is the domain of the transformed function?

A) $x \mid x \geq -4, x \varepsilon R$

B) $x \mid x \geq -\frac{4}{3}, x \varepsilon R$

C) $x \mid x \leq -3, x \varepsilon R$

D) $x \mid x \leq -4, x \varepsilon R$

3. If $f(x) = 3x + 1$, which point is on the graph of $y = \sqrt{f(x)}$?

A) (0,0)
B) (0,1)
C) (1,0)
D) (1,1)

4. Which function has a range of $y \mid y \geq 0, y \varepsilon R$?

A) $y = -\sqrt{x-5}$

B) $y = \sqrt{x} - 5$

C) $y = \sqrt{-(x+5)}$

D) $y = \sqrt{x} + 5$

5. Write the radical function that results from applying each set of transformations to the graph $y = \sqrt{x}$.

(A) vertical stretch by a factor of 3, reflection in x-axis, a translation of 4 units right and 2 units down.

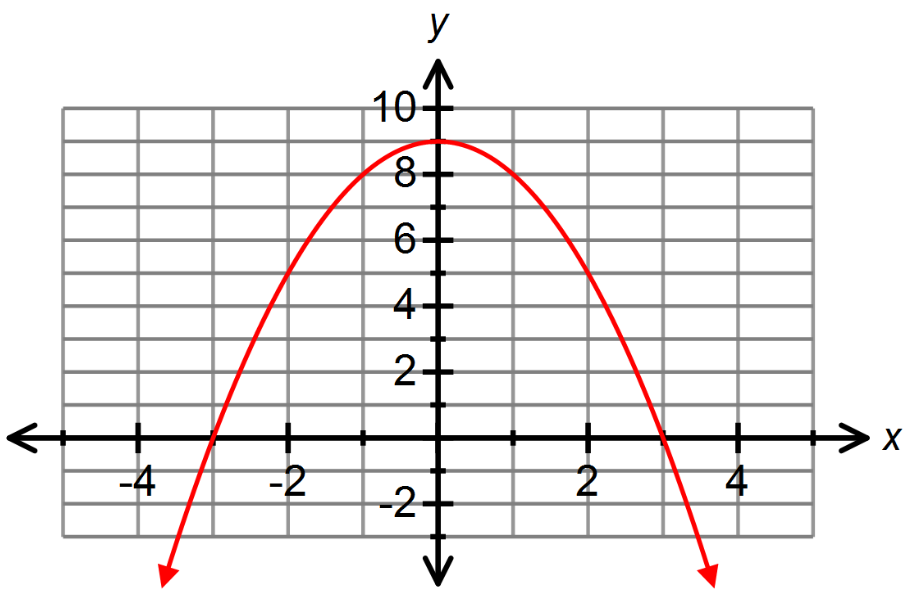
(B) vertical stretch by a factor of 3, horizontal stretch by a factor of $\frac{1}{2}$, reflection in x and y-axis, translation 6 units to the left.

6. State the mapping rule and sketch the graph of $y = -4\sqrt{x+3} - 2$.

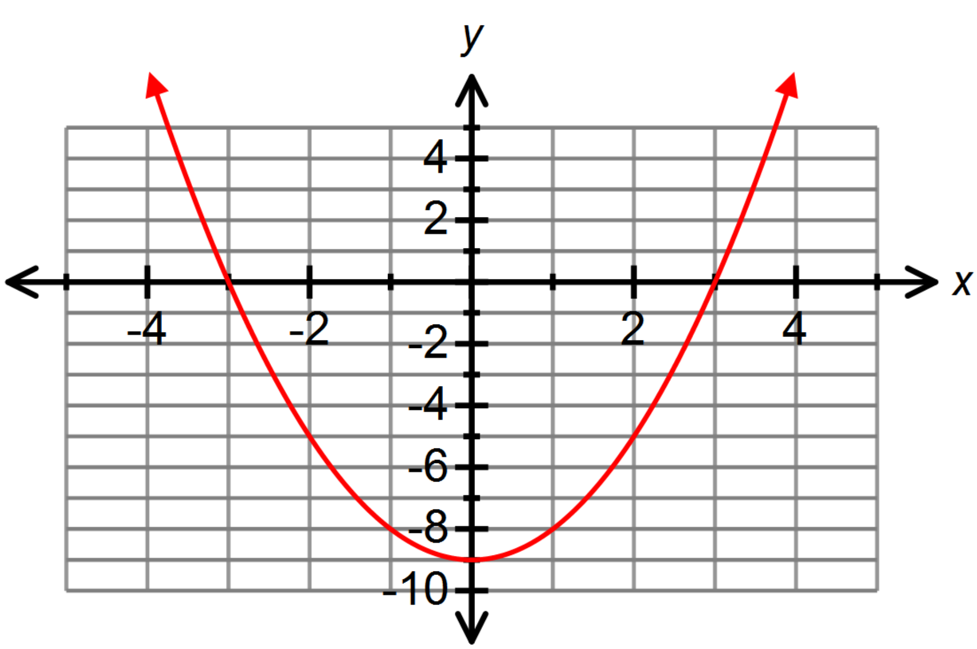
7. Sate all of the invariant points for the graph of $f(x) = 6x^2 - x$ and $y = \sqrt{f(x)}$?

8. Given the graph of $y = f(x)$, sketch the graph of $y = \sqrt{f(x)}$.

(A)

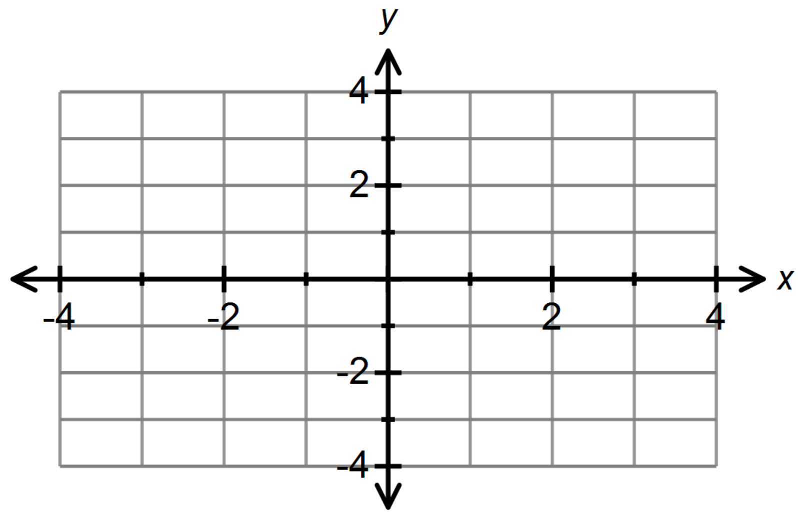


(B)

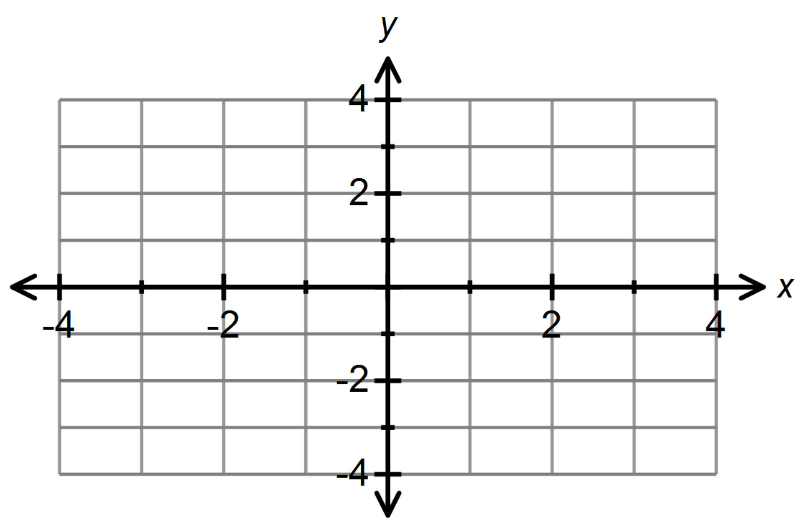


9. State the domain and range of $y = f(x)$ and $y = \sqrt{f(x)}$ for the following:

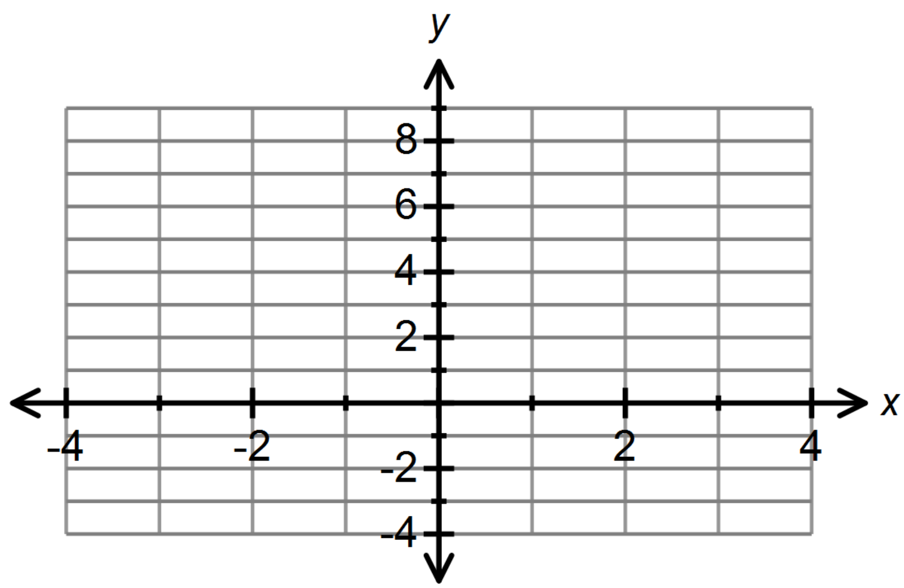
(A) $f(x) = x^2 + 2$



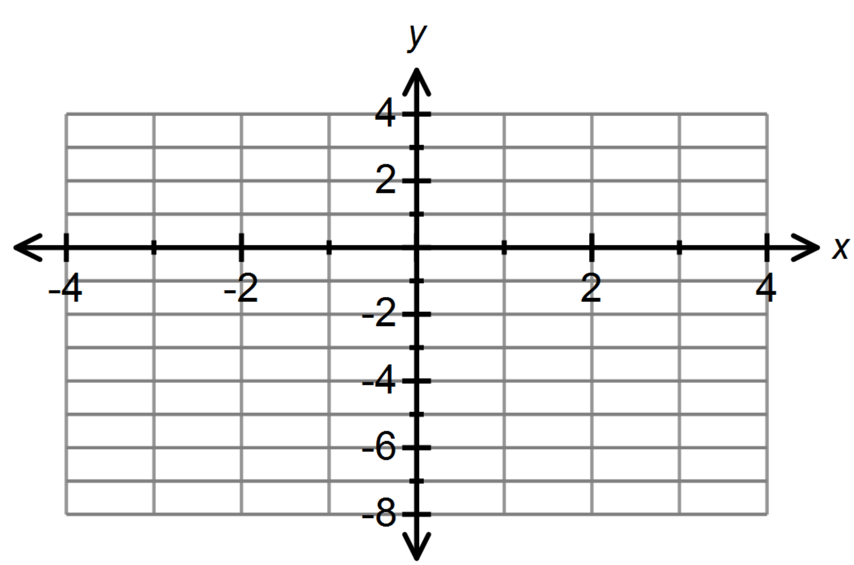
(B) $f(x) = -x^2 + 3$



(C) $f(x) = 8 - 2x^2$

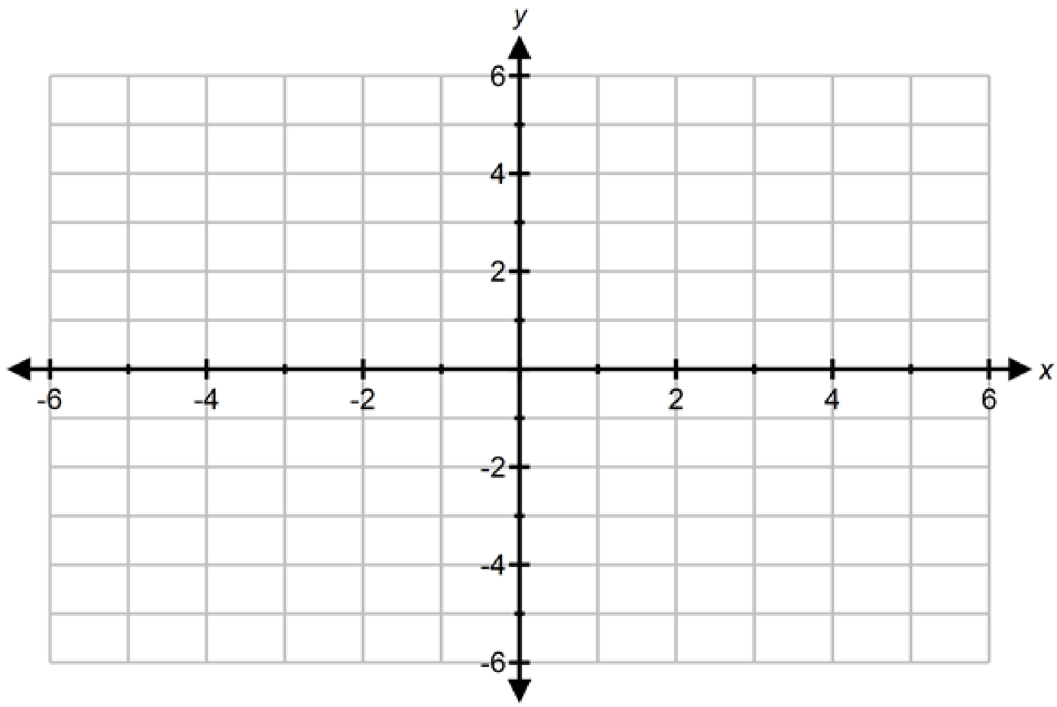


(D) $f(x) = 2x^2 - 5x - 3$



10. Solve graphically:

(A) $\sqrt{25-x^2}=4$



(B) $\sqrt{x^2-4}-5=-x$