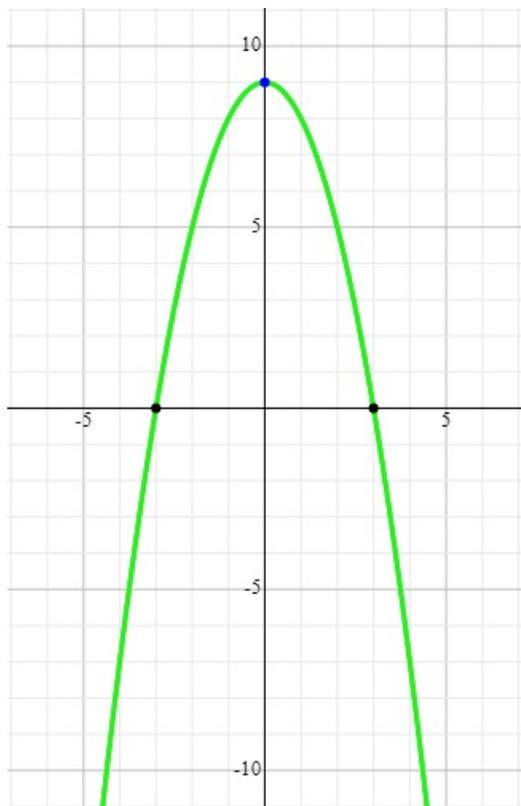
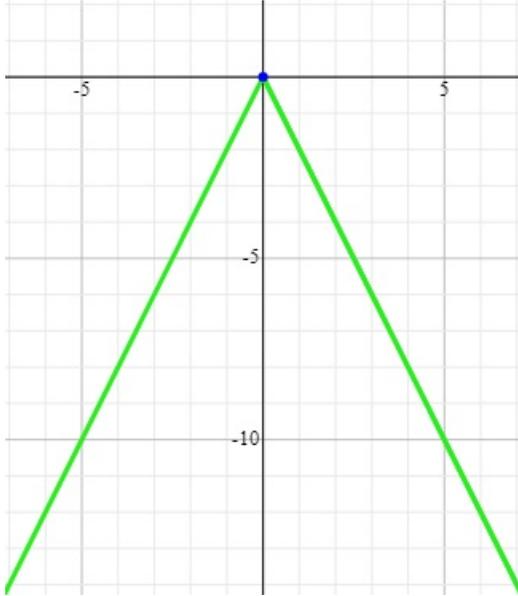


Graphing with Transformations

1. Write the function where the graph is $y = \sqrt{x}$ shifted down 3 units.
2. Write the function for the given graph.



3. Write the function for the given graph.



4. Write the function where the graph is $y = x^2$ shifted left 4 units.

5. Write the function where the graph is $y = |x|$ shifted up 2 units, and then reflected about the x -axis.

6. The x -intercepts of the graph $y = f(x)$ are 6 and 8.

(a) Find the x -intercepts of the graph $y = f(x + 2)$.

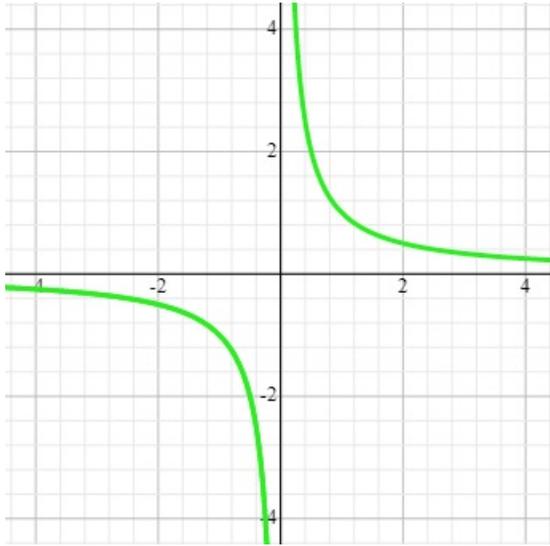
(b) Find the x -intercepts of the graph $y = f(x - 6)$.

(c) Find the x -intercepts of the graph $y = 7f(x)$.

(d) Find the x -intercepts of the graph $y = f(-x)$.

7. Graph the function $g(x) = \sqrt{-x} + 5$. State the *Domain* and *Range*.

8. Given the graph of the function $f(x)$, graph the following translations.



(a) $f(x) + 3$

(b) $f(x + 2)$

(c) $-f(x)$

(d) $f(x - 1) + 3$

(e) $\frac{1}{2}f(x)$

(f) $f(-x)$

(g) $f(2x)$

9. Graph $f(x) = |x + 7| - 5$, and find the area of the region bounded by $f(x)$ and the x -axis.