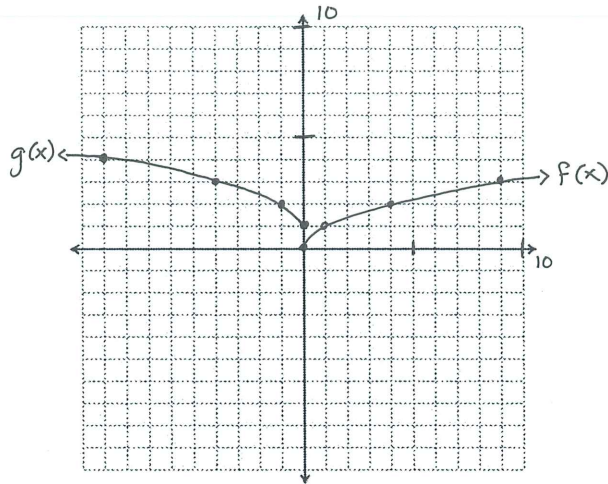
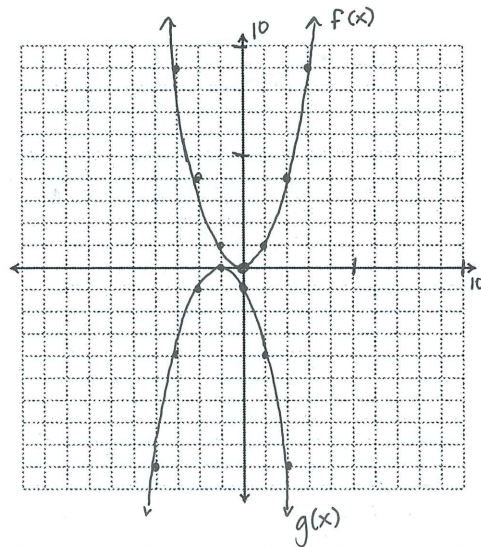


Sketch the graphs of the two functions on the same rectangular coordinate system.

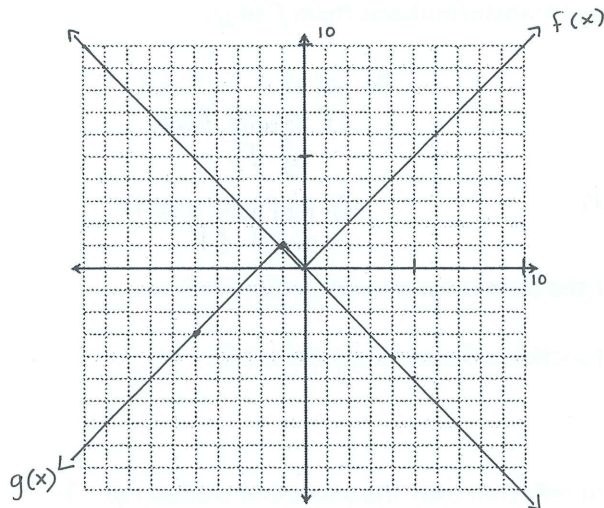
1. $f(x) = \sqrt{x}$
 $g(x) = \sqrt{-x} + 1$



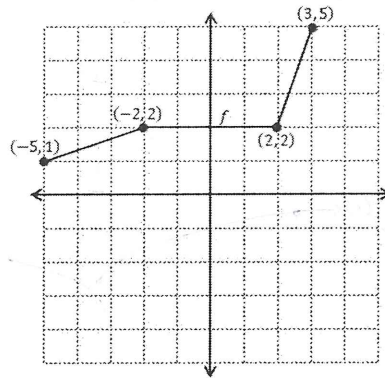
2. $f(x) = x^2$
 $g(x) = -(x+1)^2$



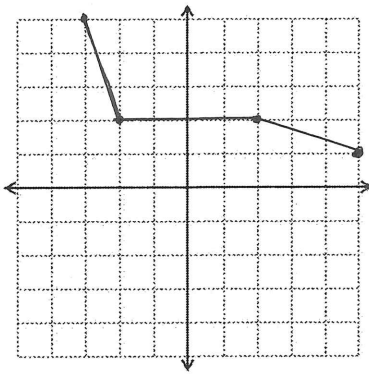
3. $f(x) = |x|$
 $g(x) = -|x+1| + 1$



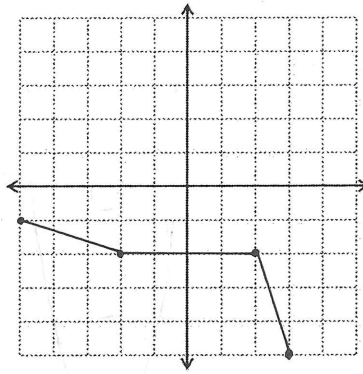
Use the graph of f to sketch each graph.



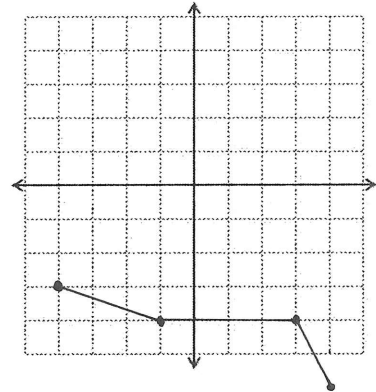
4. $y = f(-x)$



5. $y = -f(x)$



6. $y = -f(x - 1) - 2$



In Exercises 7 – 9, g is related to one of the six parent functions. (a) Identify the parent function f . (b) Describe the sequence of transformations from f to g .

7. $g(x) = -|x|$

a) Absolute Value
 $y = |x|$

b) Reflect x -axis

8. $g(x) = \sqrt{-x} - 1$

a) Square Root
 $y = \sqrt{x}$

b) Reflect y -axis
shift $\downarrow 1$

9. $g(x) = -(x + 2)^3 - 1$

a) Cubic
 $y = x^3$

b) Shift $\leftarrow 2$
Reflect x -axis
Shift $\downarrow 1$

Write the equation for the parent function described below.

10. A square root function reflected over the x -axis.

$$y = -\sqrt{x}$$

11. A cubic function reflected over the y -axis and shifted right 3.

$$y = (-x + 3)^3$$

\ominus creates the reflection over the y -axis
 \rightarrow creates the shift $\rightarrow 3$