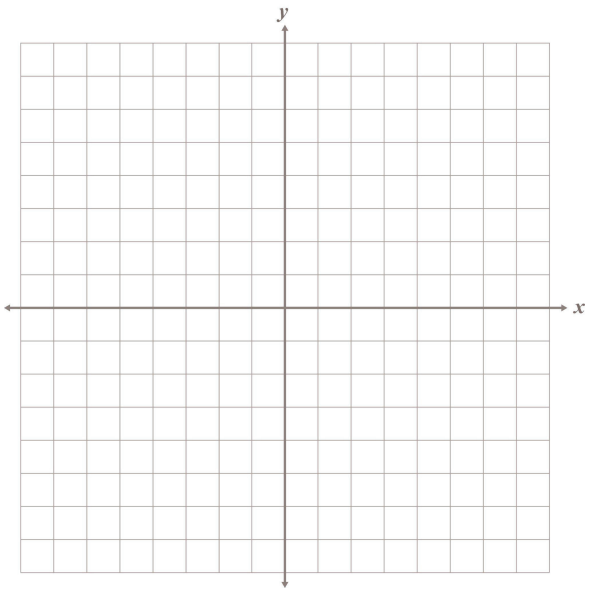
NAME:

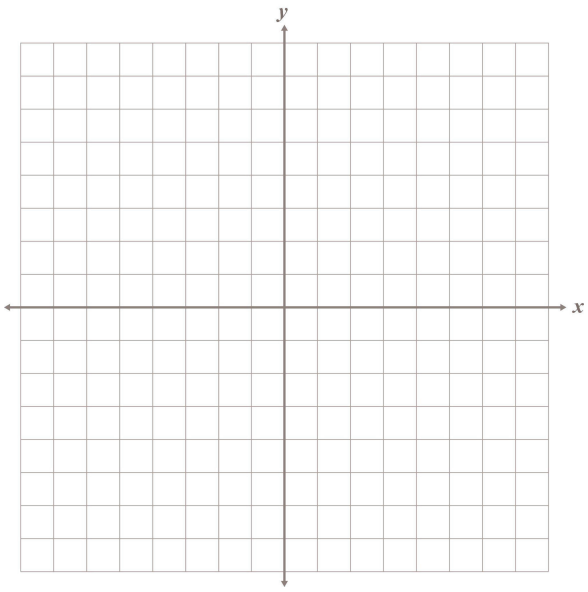
Test 9 (Lessons 17–18): Families of Functions

Name the parent function from the equation. Then sketch a graph.

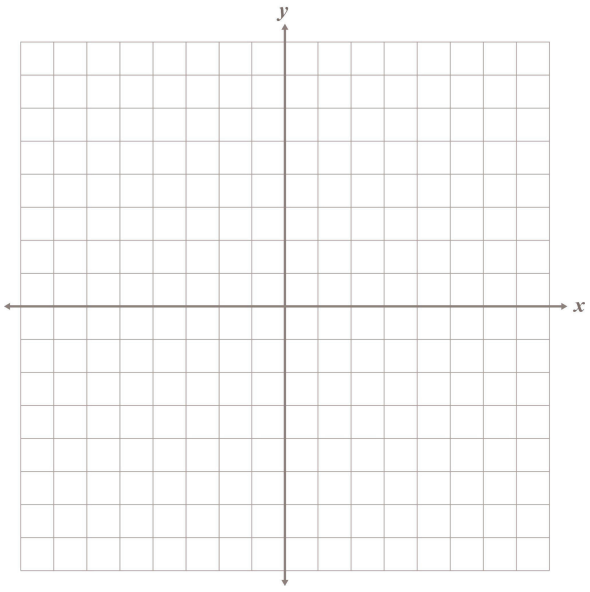
1) $y = |x|$



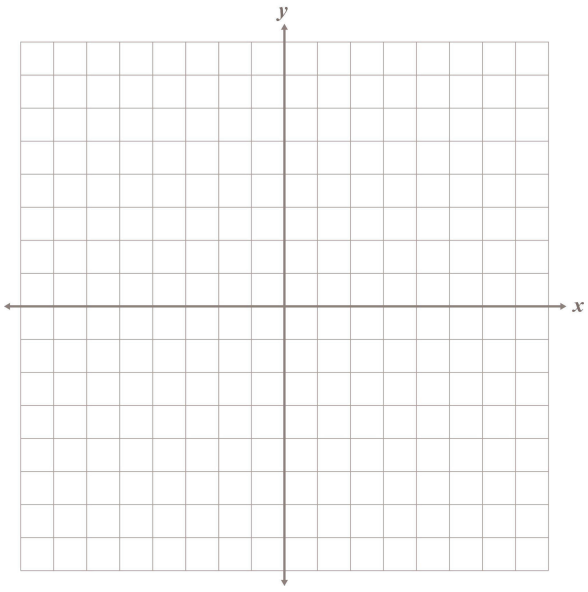
2) $y = \sqrt[3]{x}$



3) $y = \sqrt{x-3} + 2$



4) $y = -(x+1)^3 + 2$



Given the equation, describe the transformation from the parent graph.

5) $y = 7(x + 11)^2$

6) $y = -\frac{1}{x - 8} - 15, x \neq 8$

7) Name the domain and range for the given equation using *interval notation*. Then name the end behavior.

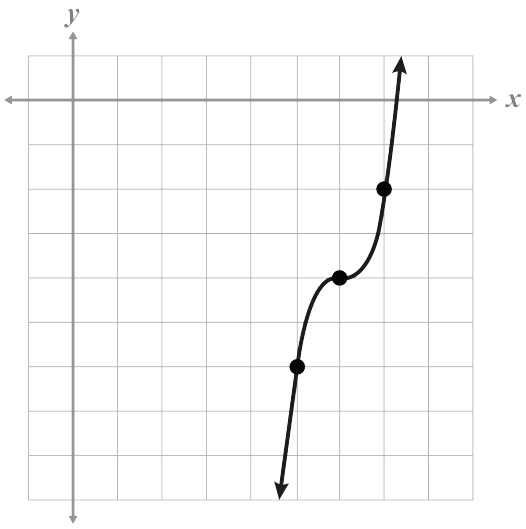
$y = -|x| + 3$

8) Name the domain and range for the given equation using *set-builder notation*. Then name the end behavior.

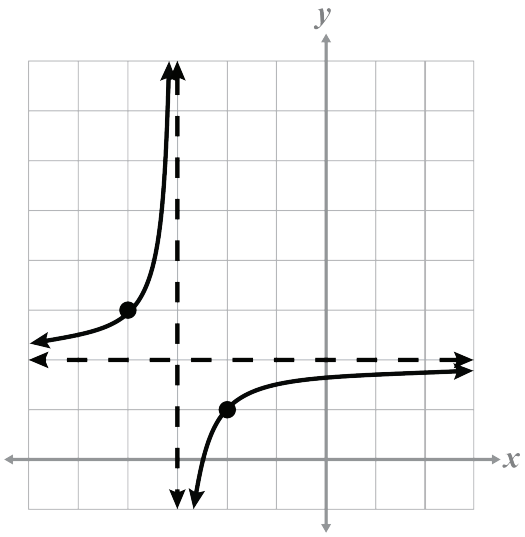
$y = \sqrt{x + 5} - 9$

Given the graph, write an equation of the transformed parent graph in vertex form. Then name the domain and range in set-builder notation.

9)



10)



Name the function and end behavior for the given parent function.

11) $y = x$

12) $y = x^2$