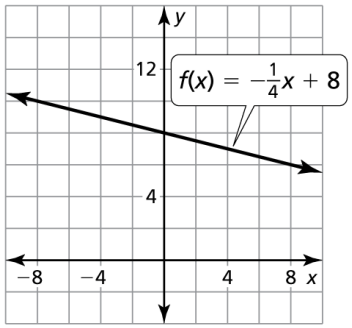
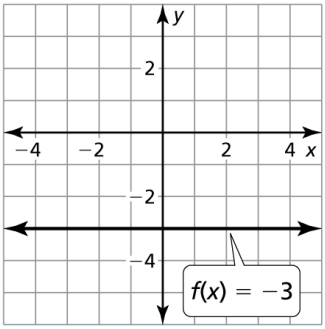
Algebra 2: Chapter 1.1 Day 2 Homework
Parent Functions & Transformations

In Exercises 1–4, identify the function family to which *f* belongs. Compare the graph of *f* to the graph of its parent function.

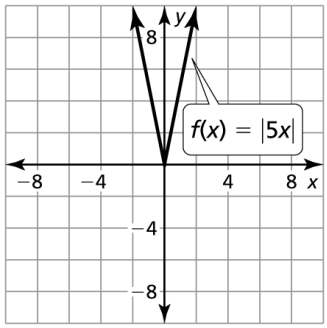
1.



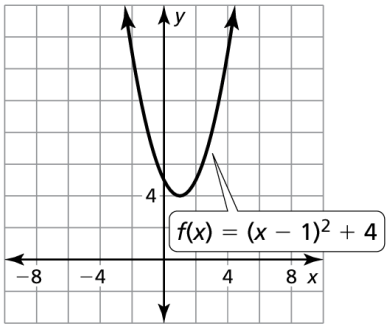
2.



3.

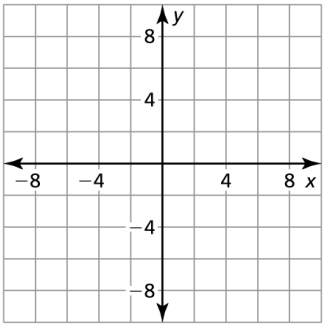


4.

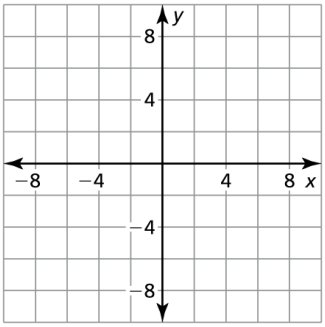


In Exercises 5–10, graph the function and its parent function. Then describe the transformation.

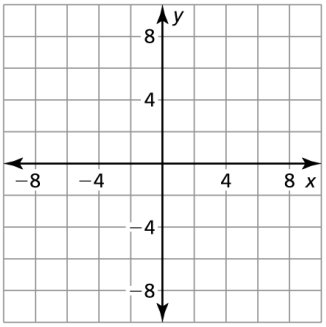
5. $f(x) = x - 7$



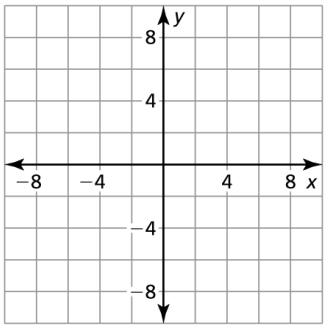
6. $f(x) = -9$



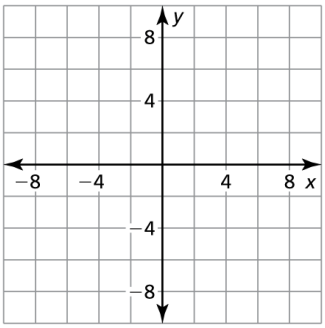
7. $f(x) = |x| + 1$



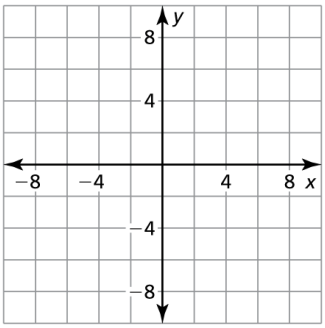
8. $h(x) = -x^2$



9. $f(x) = \frac{1}{8}x^2$



10. $g(x) = 6|x|$



11. Identify the function family of $f(x) = \frac{1}{3}|-x| + 4$ and describe the domain and range. Use a graphing calculator to verify your answer.

12. The table shows the distance a biker rides in his first team relay competition.

Time (hours), *x*	1	2	3	4
Distance (miles), *y*	12	24	36	48

a. What type of function can you use to model the data? Explain.

b. If the biker's teammate rides at the same pace but leaves 1 hour later, what type of transformation does this represent?