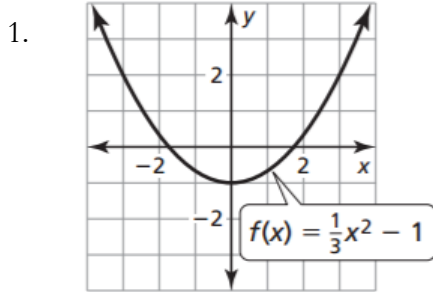


Algebra 2
Section 1.1 Practice

Identify the family of functions that the graph belongs too. Describe its transformation and determine the domain and range for the function.

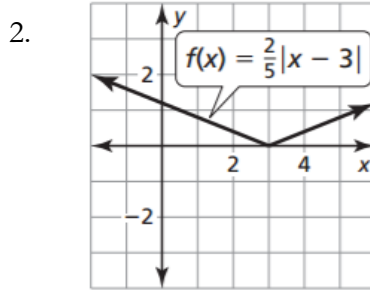


Parent: _____

Transformation: _____

Domain: _____

Range: _____

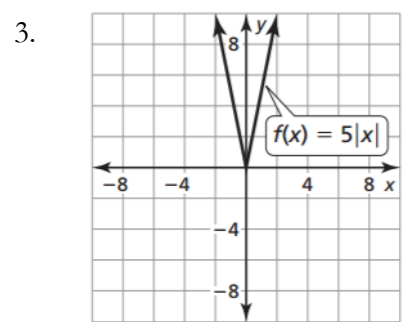


Parent: _____

Transformation: _____

Domain: _____

Range: _____



Parent: _____

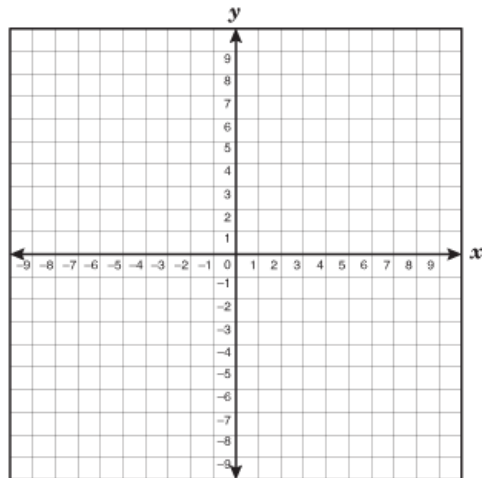
Transformation: _____

Domain: _____

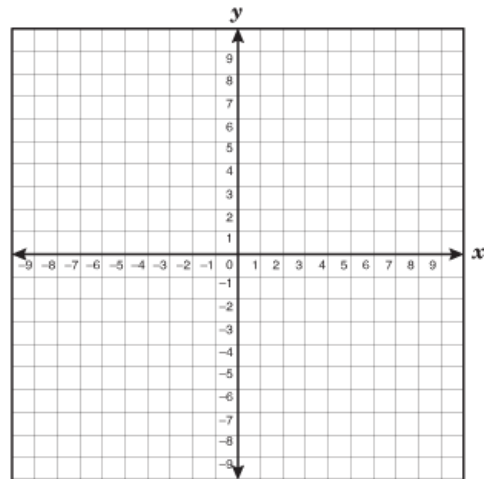
Range: _____

Graph the parent graph and transformation graph.

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



5. $y = -\frac{1}{2}|x| + 1$



Using your graphing calculator graph both the parent and transformation functions. From the graph, describe the transformation.

6. $y = 2\sqrt{x} + 3$

7. $f(x) = -x^2 - 4$

8. $y = (x - 3)^3 + 5$

9. $y = 3|x| - 4$

10. $f(x) = -x^3 + 5$

11. $f(x) = -\frac{1}{4}x^2 - 4$

12. $y = \frac{1}{3}|x + 1| - 2$

13. $f(x) = -4\sqrt{x + 2} - 3$

14. You are throwing a football with your friends. The height (in feet) of the ball above the ground t seconds after it is thrown is modeled by the function: $f(t) = -16t^2 + 45t + 6$.

- Without graphing, identify the type of function modeled by the equation.
- What is the value of t when the ball is released from your hand? Explain.
- How many feet above the ground is the ball when it is released from your hand? Explain.

15. You purchase a car from a dealership for \$15,000. The trade-in value of the car x years after the purchase is given by the function: $f(x) = 15,000 - 300x^2$

- What type of function could be used to model the data?
- After how many years will the trade-in value be \$0?
- In this situation, what is the domain and range?