

For each of the following graphs, equations, or context problems identify the function family. Explain your reasoning.

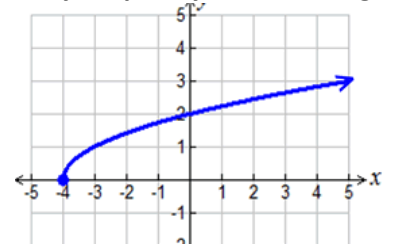
1. Kelsey joined a weight loss program, and has been losing weight at a constant rate for the past 4 months.

Function Family: _____

How do you know?

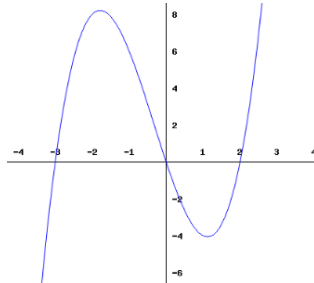
2. Function Family: _____

How do you know?



3. Function Family: _____

How do you know?



4. $g(x) = \frac{2}{x+3} - 2$

Function Family: _____

How do you know?

5. Freddy is fencing in his yard. So that his dog has plenty of room to run, he needs for the length to be twice as long as the width. If Freddy needs his yard to have an area of 200 square feet, how wide will his fence need to be?

Function Family: _____

How do you know?

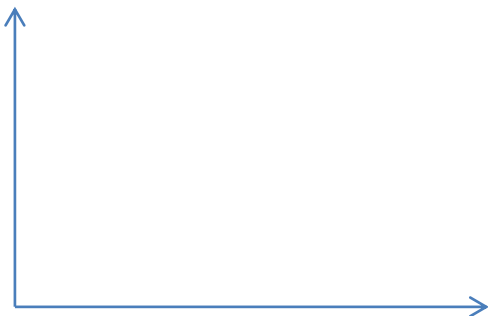
6. $p(x) = 2(5)^x$

Function Family: _____

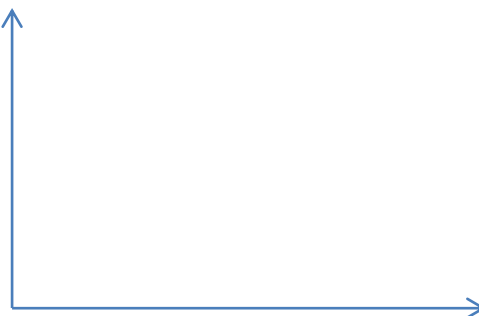
How do you know?

Sketch graphs of the following context problems. Make sure to label your axes.

7. Celia was competing in a bicycle circuit race. During the race her speed was increasing at an increasing rate.



8. The post office charges \$.37 for any mail up to an ounce in weight. After that the charge is \$.23 for each additional ounce or part of an ounce. For instance, if it weighs 1.1 ounces or 1.9 ounces, it will cost the same.

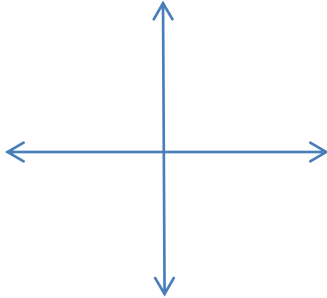


For each function identify the parent function and the transformation that has occurred. Sketch a graph of the parent function and the given function to show the transformation.

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

Parent Function: _____

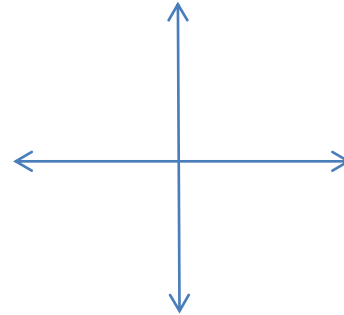
Transformation: _____



10. $g(x) = 2|x + 5|$

Parent Function: _____

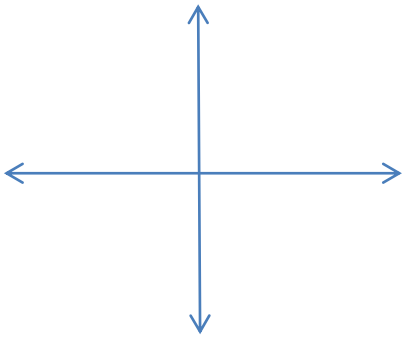
Transformation: _____



11. $p(x) = -\frac{1}{x} + 5$

Parent Function: _____

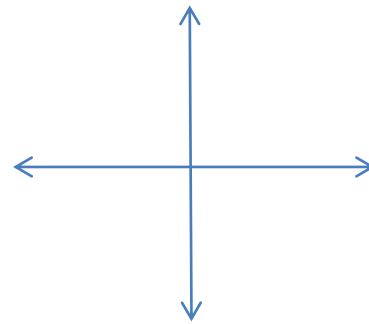
Transformation: _____



12. $q(x) = \frac{1}{2}\sqrt{x + 5} - 2$

Parent Function: _____

Transformation: _____



Given the parent function and a description of the transformation write the equation for the transformed function.

13. Cubic shifted up 3 and left 2

14. Radical shifted down 5 and right 1

15. Quadratic flipped over the x-axis and stretched vertically by a scale factor of 2.

16. Rational shifted left 5 down 4

Write a function given each of the following graphs.

17.



18.

