Name _____ Date _____ Class_____

Practice C
Introduction to Parent Functions

Graph each function on a graphing calculator. Identify the domain and range of the function, and describe the transformation from its parent function.
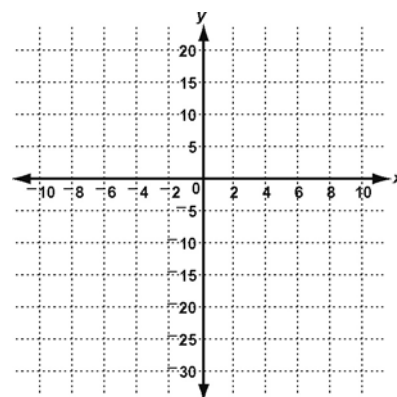
1. $g(x) = -\sqrt{4x}$ _____

_____

2. $g(x) = \dfrac{1}{2}(x-2)^3$ _____

_____

Graph the function. Identify the parent function that best describes the set of points, and describe the transformation from the parent function.
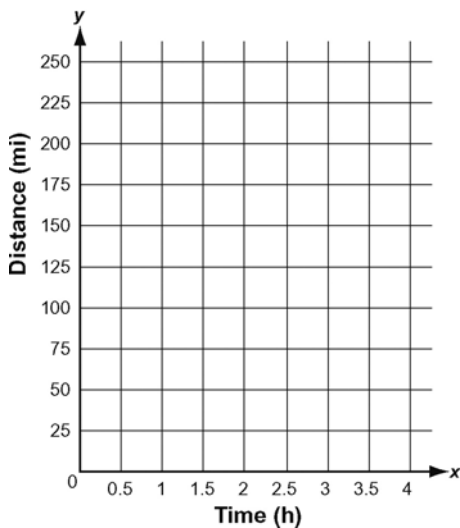
3. {(−2, 9), (−1, 3), (0, 1), (1, 3), (2, 9)}

_____

_____

Sketch a graph for each situation and identify the related parent function. Then identify a reasonable domain and range for the function.
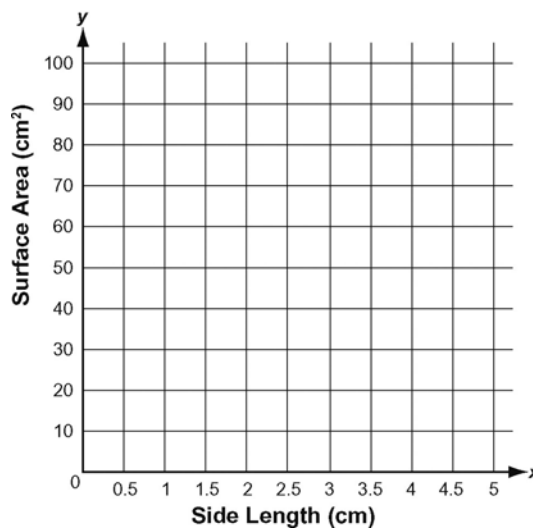
4. distance traveled in *t* hours at 55 mi/h

Distance Traveled at 55 mi/h

_____

_____
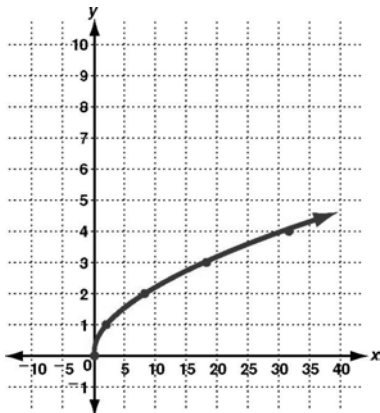
5. surface area of a cube with side length *c*

Surface Area of a Cube

_____

_____

5. Square root; vertical compression

6. The domain is the same for both functions, all real numbers. The range for the linear function is all real numbers, but the range for the quadratic function is all real numbers greater than or equal to 0.

7. The domain and the range for the cubic function are all real numbers. The domain and the range for the square-root function are all real numbers greater than or equal to 0.

Practice C

1. Domain: positive real numbers; Range: negative real numbers; reflection across the *x*-axis and a vertical stretch

2. Domain: all real numbers; Range: all real numbers; translation 2 units right and a horizontal stretch

3. Quadratic; translation 1 unit up and a horizontal compression
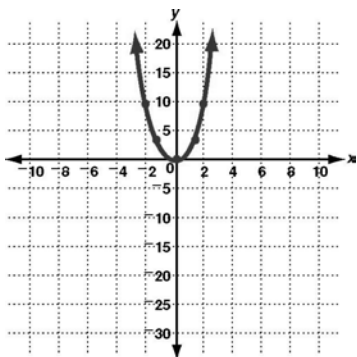
4. Linear; domain and range are all real numbers greater than 0.
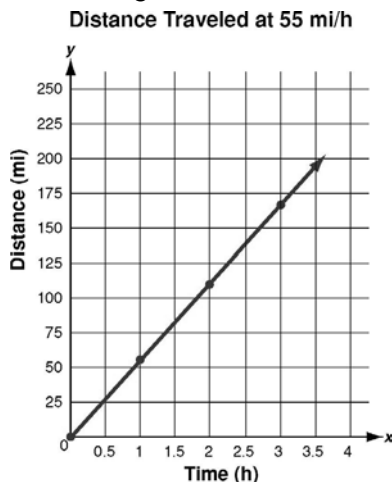
5. Quadratic; domain and range are all real numbers greater than 0.
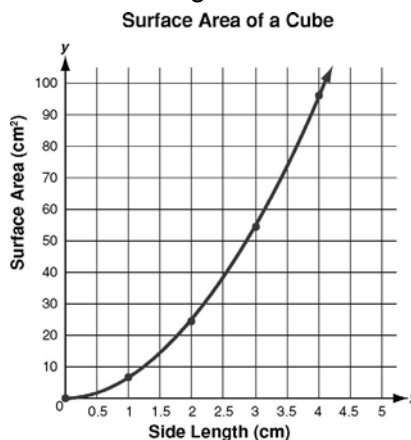
Reteach

1. Quadratic; reflection across *x*-axis

2. Square root; horizontal translation left 2 units

3. Quadratic function $f|x| = x^2$; vertical shift down 3 units

Holt McDougal Algebra 2