**Section 6
Rational and Radical Exponents**

1. Solve the radical equations below. (drop box)

√2x + 3 = 7

3√5x – 1 + 6 = 10

(x – 2)3/4 = 1

1. Solve for *t* in the equation below.

(*t*1/3 – *t*5/3 + *t*3/2)0 = 2√*t*

1. Solve for *x* in the radical equation below. Express your answer in ration exponent form.

23√8x + 9 = 5

1. -2
2. -1
3. 0
4. 1
5. Use the graph below to identify the square root functions.



The \_\_\_\_\_\_\_\_ function is f(x)= √x

1. Red b. Blue c. Green

The \_\_\_\_\_\_\_\_ function is f(x)= √x + 2

1. Red b. Blue c. Green

The \_\_\_\_\_\_\_\_ function is f(x)= √x – 2

1. Red b. Blue c. Green
2. An expression is shown below.

(x4/3)(x2/3)

What is the product of the two factors?

1. The time it takes for an object stopped from a certain speed can be modeled by the equation t= ½ √v, where v is the speed of an object in meters per second. If it takes 3 seconds for the object to stop, what is the speed of the object in meters per second?
2. In 1980, the population of the United States was 226,545, 805. If the population has an annual growth rate of 1.68%, select all the statements below that would be true. Round your numerical answers to the nearest whole number and use the formula A = Pert where P is the initial population in 1980 and t represents the number of years that have passed since 1980.
* In 1985, the population of the United States would be approximately 246, 397, 763
* In 1990, the population of the United States would be approximately 264, 875, 431
* The population of the United States would exceed 300 million in 2001
* The population of the United States would exceed 300 million in 1997
* The annual growth of the United States population is linear
1. Which of the following functions are true for the graph below?



* The function graphed above is f(x)= √x
* The function graphed above is f(x)= x2
* The domain is all real numbers
* The range is all real numbers
* { x| x is a real number and x is greater than 0}
1. The volume of a sphere is 950 cubic inches. Use the formula for the volume of a sphere, V= 4/3(3.14)r3, to find the radius r to the nearest tenth.

1. An object is launched upward from ground level and reaches a maximum height of *h* feet. The initial velocity *v* (in feet per second) of the object is given by the function *v*= 8√*h*. Write the function in terms of *h*.
2. *h*= 8*v*
3. *h*= *v*
 8
4. *h*= *v*√8
5. *h*= *v*2 64