Algebra 2 Unit 6: Rational and Radical Functions

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Graph a radical function: y = √x.
   1. What is the domain of the function?
   2. What is the range of the function?
   3. What are the intervals of increasing and decreasing?
   4. What are the maximum or minimum values?
   5. Are there any inflection points?
2. Graph a square function: y = x2.
   1. What is the domain of the function?
   2. What is the range of the function?
   3. What are the intervals of increasing and decreasing?
   4. What are the maximum or minimum values?
   5. Are there any inflection points?
3. Graph a cube root function: y = .
   1. What is the domain of the function?
   2. What is the range of the function?
   3. What are the intervals of increasing and decreasing?
   4. What are the maximum or minimum values?
   5. Are there any inflection points?
4. Graph a cube function: y = x3.
   1. What is the domain of the function?
   2. What is the range of the function?
   3. What are the intervals of increasing and decreasing?
   4. What are the maximum or minimum values?
   5. Are there any inflection points?
5. Graph these other functions and notice the differences between their parent functions.
   1. Y = √x+4
   2. Y = √x – 12
   3. Y = 4 + √x
   4. Y = -5 - √x
   5. Y = √x+4
   6. Y = √x – 12
   7. Y = 4 + √x
   8. Y = -5 - √x

Answer these questions:

1. What do you notice about the radical and the square functions?
2. What do you notice about the cube root and cubed functions?
3. What do you notice about the transformation functions? How do they compare to their parent functions?