

## Week 15 Algebra 2 Assignment:

- Day 1: pp. 298-300 #1-5, 10-23  
Day 2: pp. 303-304 #1-10 all, 11-29 odd  
Day 3: pp. 307-309 #1-17  
Day 4: pp. 312-313 #1-35  
Day 5: Chapter 7 test

### Notes on Assignment:

#### Pages 298-300:

##### **Work to show:**

- #1-5, 10-14: Graphs  
#15-18: Show only work as needed  
#19: Graph  
#20-23: Answers only is ok

- #1-5: You already have an idea of what these should look like. Make a table and graph.
- #10-14: You already have an idea of what these should look like. Make a table and graph.
- #15: Think of what the domain and range for  $f(x) = \sqrt{x}$  is and what the graph looks like. (See page 296). The domain is Real #'s  $\geq 0$  and the range is Real #'s  $\geq 0$ . The function in #15 is a shift of  $f(x) = \sqrt{x}$  h units to the right and k units up. How would that affect the domain and range.
- #16: The number c does not affect the domain and range, only the steepness. Look at the graph of Example 4 on page 298 to see what kind of graph you would get and thus what values are in the domain and range.
- #22: What do the y-values get closer and closer to?

#### Pages 303-304:

##### **Work to show:**

- #1-29: Show work needed to solve equations.

- #1-5: When you solve an equation where the variable is in the exponent, you must get both bases the same. If the bases are equal, then the exponents must be equal.

#6-10: When solving radical equations, solve for the radical. Then square both sides. Make sure to check your solutions, since squaring both sides sometimes introduces extraneous solutions.

#11: The fraction  $\frac{1}{4}$  can be written with a base of 2:  $\frac{1}{4} = \frac{1}{2^2} = 2^{-2}$ .

#24: Write 0.5 as a fraction and go from there.

### Pages 307-309:

#### **Work to show:**

#1-17: Show the squaring of both sides and complete the solving.

Notes on this section: When you have an equation with more than one radical expression in it:

1. Isolate the more complicated radical expression.
2. Square both sides and simplify.
3. Isolate the remaining radical expression.
4. Square both sides again.
5. Solve for the variable.
6. Check for extraneous solutions.

#1: When you square both sides, realize that you will be squaring a binomial. If it is easier for you, write it twice and use foil.

$$\begin{aligned}(\sqrt{x+3}-1)^2 &= (\sqrt{x-6})^2 \\(\sqrt{x+3}-1)(\sqrt{x+3}-1) &= x-6 \\(x+3)-\sqrt{x+3}-\sqrt{x+3}+1 &= x-6 \quad \text{FOIL} \\x+4-2\sqrt{x+3} &= x-6 \\& \text{etc.}\end{aligned}$$

### Pages 312-313:

#### **Work to show:**

All problems: Show the work as required on like problems from previous assignments.

Chapter Review – no notes

## Chapter 7 Test:

For the test you will need to be able to:

- Write radical expressions in exponential form
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- Simplify radicals
  - Remember to use absolute values to ensure what comes out of an even root is positive.
- Add, subtract, multiply and divide radicals.
- Rationalize denominators (using buddies and conjugates)
- Factor polynomials using radicals
- Solve radical equations (some with one radical and some with 2).