Week 12 Algebra 2 Assignment:

Day 1: p. 241 #1-17 odd, 21-24
Day 2: pp. 246-247 #1-19 odd, 26-30
Day 3: pp. 257-259 #1-15 odd, 16, 21-25
Day 4: pp. 262-263 #1-7 odd, 8-10, 12, 14-26

Notes on Assignment:

Page 241:

Work to show:

#1-17: Choose your method and solve, showing your work as done with previous systems.
#21-24: Show work.

Notes for this section: Most of these must be done by substitution. The exception would be if both equations had the same variables raised to the same powers, so that you could line up columns of like terms.

Many of the equations you end up solving will involve squares. Remember that if you take the square root of both sides, you need to put in your ±.

#1: Solve the top equation for either x or y, and then substitute.

#3: Solve the bottom equation for x and then substitute.

#7: I suggest doing this by the addition method.

#11: This one is already set up for substitution using the bottom equation.

#13: I suggest doing this by the addition method.

#15, 17: These are already set up for substitution for the y.

#21: Perpendicular slopes are negative reciprocals.

#23: Use the 2 points given to find the slope. Then put your slope and y-intercept into $y = mx + b$.

#24: Find the slope, and then put the slope and one of the points into $y = mx + b$ to find out what b equals.

#25: There are many possible answers.

Pages 246-247:

Work to show:

#1-19: When solving systems of inequalities graphically, show these steps:

- Write down each inequality as an equation (with an equal sign instead of the inequality sign). These are your boundary.
- Write down whether the boundaries are dotted or solid. If there is no equal bar under the inequality, then it is dotted. If there is an equal bar under the inequality, then it is solid.
- If the equations are not in standard graphing form, get them in standard graphing form. Graph each equation on the same graph.
- For each inequality,
  - Test a point on one side of the boundary in the original inequality. A good point to use is (0,0) (unless the boundary goes through that point.)
  - Shade the "true" side. Do not shade the "false" side.
- The portion that is double-shaded is the solution to the original system of inequalities.

#26-30: Clear any (   ) and negative exponents and then simplify.

*If you need a refresher on graphing parabolas, refer back to the assignment notes for week 9.

#15: The answer will be the area that is shaded 4 times. You may want to use different colors for each inequality.

#17-19: You will have to complete the square to put these in standard form to graph.

#27: There is more than one way to do this, but I would suggest that you raise each factor of the first (   ) to the power of 2 and each factor of the 2^{nd} (   ) to the power of -2. Remember that when you raise an exponent to an exponent you multiply the exponents. When you have cleared all of the ( ), take care of the negative exponents by doing some "kicking" and then simplify as needed.

#29-30: Multiply each term of the first polynomial times each term of the 2^{nd} polynomial.

Pages 257-259:

Work to show:

#1-16: Show work as described below.
#21-25: Show work

Notes for this section: There are numerous ways to solve systems of 3 equations with 3 variables. The way that we will do it is to put 2 of the 3 equations together in each of 2 systems and get rid of the same variable in each system using the addition method. The 2 resulting equations will be put into a system and solved by the method of your choice. Once you have solve that system, put your 2 values back into any of the 3 original equations to solve for the 3rd variable.

* Note: All of your solutions will be integers except #13 and #16.

#1: Put the 1st and 2nd equations together in one system and the 2nd and 3rd equations together in another system. By using the addition method on each system, you will see that the z-terms drop out, leaving you 2 equations that have just x and y terms. Make a system from these 2 equations and solve for x and y. Then put those values into one of the original equations to find z.

#3: You can choose to eliminate any of the variables, but I would probably choose to get rid of the y's. Multiply the 2nd equation by -9 and then add it to the 1st equation. Multiply the 3rd equation by -9 and also add it to the top equation.

#11: Since you already know what z equals, put that into the 2nd equation to find y. Then put both of those values in the first equation to find x. This type of system is easy to solve.

#13: One option would be to clear all decimals first, though you don't have to do that if you don't want to.

#16: When you write this system, leave spaces so that the columns line up correctly. Now, since you already have one equation that has no z-term in it, put the other 2 equations together and get rid of the z-terms. Put those 2 equations together in a system and solve.

#21: Distance formula (section 3.9)

#22: Backwards FOIL.

#23: Use your answer to #22 to find the zeros. If you don't remember what zeros are, see section 5.7.

#25: You can use long division or synthetic division for this.

Pages 262-263:

Work to show:

#1-7: Show the work as indicated by the method.
#8-9: These are 5-step word problems
#10: Graph
#14-15: Show the work as indicated by the method chosen.
#16-18: Answers only

Chapter Review – no notes.