Week 27 Algebra 2 Assignment:

Day 1: pp. 498-499 #1-27 odd, 33-36
Day 2: pp. 502-503 #1-25 odd, 30-33
Day 3: pp. 509-510 #1-21 odd, 31-35
Day 4: pp. 518-519 #1-28

Notes on Assignment:

Pages 498-499:

General notes for this section: You must memorize the following:
The log of a number is the exponent that you put on the base to get that number.

Work to show:
All problems: Show any work needed.

#1-9: The expression $y = a^x$ translates to $y = \log_a x$.

#11-19: After translating these into exponential form, simplify them.

#21-27: Put a "y = " in front of each log expression. Then translate the log statement into an exponential equation and solve for y. Remember that when you solve equations with variables in the exponents, you must get the bases equal so that you can set the exponents equal.

#33-36: Change any division into multiplication. Then factor and cancel.

Pages 502-503:

Work to show:
#1-11: Answers only
#13-25: Show work
#30-33: Show any work needed.

#3: Take care of the product first, and then the exponent.

#5: Take care of the quotient first.

#7: Write any radicals in exponential form.

#13-19: You need to write these log expressions as some kind of product, quotient, or exponential form using only the numbers 2 and 5, since we are given the values for these logs.

#13: Write $\log_{10}10$ as $\log_{10}(2\cdot5)$ and then expand it using the product law. Use the values given for $\log_{10}2$ and $\log_{10}5$ to finish the problem.

#21-25: Use the laws of logs to work backwards on these problems. The goal is to get the $\log_b$ ___= $\log_b$___. If the logs are equal then the arguments of the logs must be equal.

#31: Multiply it all out and then simplify.

#32: Kick it downstairs and then rationalize the denominator.

Pages 509-510:

Work to show:

#1-9: Show any work needed.
#11-21: Write the problem and show what is done to both sides to solve.
#31-33: Factor denominators as you write the problem down. Show LCM and canceling.
#33-35: These are 5-step problems.

#1-4: Put a "y = " in front of each log expression. Then translate the log statement into an exponential equation and solve for y. Make sure you use the correct base.

#5-7: When the base of the log is the same as the base of the expression, they "undo" each other.

#9: Use the law of logs in reverse to condense this into a single ln expression.

#11-17: Since you cannot possibly get the bases to be the same, your only alternative is to take the log of both sides. You are told to use the natural log (ln) so take ln of both sides. Then use the laws of logs to get the exponent out of the log expression. Solve for x.

#11: Take the ln of both sides to get $\ln 2^x = \ln 5$. Now the x can come out front to give us $x\ln 2 = \ln 5$. Divide both sides by $\ln 2$ to solve. For your final answer, use your calculator to get a decimal approximation.

#19: After you pull the exponents out front (leave them in parentheses) you will need to multiply through to clear the parentheses on both sides. Then gather the x-terms on

one side and the other terms on the other side. Factor out the x and then divide both sides.

#31-33: Find the LCM and multiply all of the way through the equation to clear the fractions.

#34: This means that if the area of the square is x, then the diagonal is also x. If the diagonal is x, use Pythagorean to find the side of the square.

Pages 518-519:

Chapter Review – no notes.

Work to show:

#1-22: Show any work needed.
#23-28: Show work.