Algebra 2 Unit 2 Review

Exponential and Logarithmic Functions

Standard 6: Differentiate between linear and exponential functions.

•What is the difference between a linear and an exponential functions? Draw both. Which will grow faster? Standard 7: Rewrite expressions involving rational exponents using the properties of exponents.

• Rewrite the expression to an exponent:

$$\int_{-6}^{-6} \frac{x+7}{2}$$

$$\sqrt{x^{10} + 5x + 1}$$

Standard 8: Solve expressions using the properties of exponents.

• Simplify the given expression.

$$a^{-5}b^6z^{-1}$$

$$a^{5}b^{-2}z^{6}$$

$$\frac{r}{2r^{-2}}$$

Standard 9: Create exponential equations in a modeling context (growth, decay, compound interest).

• Maria puts \$1000 into an account which yields 4% annual interest. If the interest is compounded monthly for 6 years how much will she have in the account? Standard 9: Create exponential equations in a modeling context (growth, decay, compound interest).

• You drink a beverage with 120 mg of caffeine. Each hour, the caffeine in your system decreases by 12%. How much caffeine will you have in your system in 3 hours?

Standard 9: Create exponential equations in a modeling context (growth, decay, compound interest).

• The foundation of your house has about 1,200 termites. The termites grow at a rate of 2.4% per day. How many termites will you have in your foundation after a month?

Standard 10: Rewrite expressions involving logarithms using the properties of logarithms.

• Expand or condense the given equations.

 $\log_5 2xy^4 z^2$

 $\log_3 \frac{x^3 y}{6}$

Standard 11: Solve expressions using the properties of logarithms.

• Evaluate the following:

Standard 12: Explain the inverse relationship between exponents and logarithms.

•What is the inverse relationship between exponents and logarithms? What is the formula? Can you give an example?

Standard 13: Solve real-world application problems using exponents and logarithms.

• An earthquake of magnitude 3.5 is how many times weaker than an earthquake of magnitude 6.7?