

Name _____

Date _____

Advanced Algebra

Unit 3- Exponential, Power, and Logarithmic Functions

Students should come into this unit with

- a) Knowledge of how to use the rules for calculating with exponents accurately
- b) Knowledge of how to solve simple growth and decay problems
- c) How to write exponential equations from tables and graphs

LT: I can simplify exponents using exponent rules. **Home work: You need to study your exponent rules. These can be found on page 246.**

Re-write the following expressions without using a negative exponent or a decimal point.

1) 5^{-3}

2) $(2x^3)^0$

3) $(5x^2)^3$

4) $3^{1/4} * 3^{3/4}$

5) $4^{1/3} * 16^{1/3}$

6) $20^{1/4} * (4/5)^{1/4}$

7) $2^3 * 2^5$

8) $(-3)^2 * (-3)^1$

9) $(1/2)^2 * (1/2)^{-2}$

10) $3 * (2/3)^3 * (3/2)^2$

11) $3 * (2/3)^3 * (3/2)^2$

12) $x^4 * x^{-2}$

13) $3y^2 * y^2$

14) $(4^3)^2$

15) $(6^2)^{-2}$

LT: I can use exponential equations to model real life situations.

Write a recursive or a direct (explicit) formula for the following problems)

Sketch a graph for the following as well and state the domain and range.

The car that Jason bought is expected to depreciate 18% each year. Jason paid \$17,500 for his car. How much would his car be worth 3 years after he bought it?

Sally made a deposit in the bank of \$1,200. She will earn 8% annual interest. She leaves it in the bank making no other withdrawals or deposits. How much will her account be worth in 5 years?

James deposits \$500 into an account that pays 6.75% annual interest. How long will it take for his money to double?