Algebra 2 Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Unit 6 Review: Logarithmic Functions Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Block: \_\_\_\_\_\_\_\_\_\_\_

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| ***Keeper # 35: Logarithmic Functions***  Rewrite each equation in exponential form.   |  |  | | --- | --- | | 1.) | 2.) |   Rewrite each equation in logarithmic form.   |  |  | | --- | --- | | 3.) | 4.) |   Evaluate. Round any decimal answers to the hundredths place.   |  |  |  | | --- | --- | --- | | 5.) | 6.) | 7.) |   ***Keeper # 36: Properties of Logarithms***  Expand the logarithm.   |  |  | | --- | --- | | 8.) | 9.) |   Condense the logarithm.   |  |  | | --- | --- | | 10.) | 11.) |   Use the change of base formula to evaluate.   |  |  | | --- | --- | | 12.) | 13.) |   ***Keeper # 37: Solving using Logs***  Solve. Round your answer to the hundredths place if necessary.   |  |  | | --- | --- | | 14.) | 15.) | | 16.) | 17.) | | 18.) | 19.) | | 20.) | 21.) |   ***Keeper # 38: Inverses of Logarithmic & Exponential Functions***  Determine the inverse.   |  |  | | --- | --- | | 22.) | 23.) | | 24.) | 25.) |   ***Keeper #39: Characteristics & Graphing Logarithmic Functions***  Graph the function. Then identify the characteristics.   |  |  | | --- | --- | | 26.) | 27.) | | Domain: \_\_\_\_\_\_\_\_ Range: \_\_\_\_\_\_\_\_  x-intercept: \_\_\_\_\_\_\_ y-intercept: \_\_\_\_\_\_\_\_\_  Asymptote: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  End Behavior:    Interval of Increase or Decrease: \_\_\_\_\_\_\_\_\_ | Domain: \_\_\_\_\_\_\_\_ Range: \_\_\_\_\_\_\_\_  x-intercept: \_\_\_\_\_\_\_ y-intercept: \_\_\_\_\_\_\_\_\_  Asymptote: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  End Behavior:    Interval of Increase or Decrease: \_\_\_\_\_\_\_\_\_ | |

***Keeper # 40:: Applications of Logarithmic Functions***

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| 28.) Maryville was founded in 1950. At that time, 500 people lived in the town. The population growth in Maryville follows the equation , where t is the number of years since 1950.  A. Determine when the population had doubled since the founding.  B. In what year was the population predicted to reach 25,000 people? |
| 29.) Tanisha has $100 to invest at 8% per year in an account that is compounded continuously.  A. How long will it be before she has $150?  B. What rate would Tanisha need to invest her money in order to make $300 in 7 years? |