Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **Use the following to review for you test. Work the Practice Problems on a separate sheet of paper.** | | | | |
| **What you need to know & be able to do** | **Things to remember** | **Problem** | **Problem** |
| **Arithmetic Sequences** | * Gives the First Term * Adding or Subtracting to get to the next term * Explicit: * Recursive: | 1. Write the explicit and recursive rules for the following sequence   -5, 2, 9, 16, …   1. Find the 10th term | 1. Write the explicit rule for the following sequence   -15, -13, -11, -9, …   1. 7 is the \_\_\_\_th term of the sequence |
| **Geometic Sequences** | * Gives the First Term * Multiplying or Dividing to get to the next term * Explicit * Recursive | 1. Write the explicit and recursive rules for the following sequence   3, 6, 12, 24, 48, …   1. Find the 15th term | 1. Kell has 324 kids that show up to try out for baseball on the first day. If a third get cut each day, write a sequence for the scenario. 2. How many baseball players are left after 3 days? |
| **Solving Exponential Equations** | * Must have SAME base * Set exponents = (don’t forget to distribute) * Solve for x |  |  |
|  |  |
| **Characteristics of Functions** | * Locate the asymptote (k) * Use your calculator or desmos.com to find 3 good points * Sketch | 1. [image]Graph the funtion     Asymptote: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| **Describe the transformations** | See notes for stretch, shrink, left, right, up, down or reflect |  | |
| **Growth and Decay Models** | * Growth: * Decay: * Factor: whole parentheses * Rate: Percent | 1. The population for Kennesaw in 2000 was 25,000. Since then, the population has grown at a rate of 3.2% each year. Write an equation to represent the population of Powder Springs since 2000.   b. According to the equation, what will the population be in the year 2016? | c. Mr. Gossett is a machinist. He bought some new machinery for about $125,000. If the machinery depreciates at the rate of 15% per year, what is the value of the machinery at the end of 10 years? |
| **Compound Interest** | * Annually = 1 * Biannually = 2 * Quarterly = 4 * Monthly = 12 * Weekly = 52 * Daily = 365 | 1. $20,000 is invested at a rate of 3% and is compounded annually.   Equation:  How much money will there be in the account after 8 years? | 1. $27,000 is invested at a rate of 3.75% and is compounded quarterly.   Equation:   1. How much money will there be in 3 years? |
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