**Honors Homework 2.2 Name:**

**You MUST show your work to receive full credit!**

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| Write the following algebraically: Johnny works seven hours less than three times as many as Sally. | Find the area of a rectangle with a length of and a width of | Is the product of a rational and an irrational **sometimes, never, or always RATIONAL**? Prove it with an example(s). |
| Simplify: | Given the common difference and the 7th term, write the explicit formula in sequence notation:  d = -8 24 | Given the explicit formula, write the **recursive** formula:  f(x) = f(x-1) -3 , f(1) = 12 |
| Evaluate the following:  **Find f (-7)** | Write the equation in **slope-intercept form** for the following table: | For every hour that passes, the **original amount of 5 people** infected by the virus **doubles**. Is this:  **Discrete or Continuous**  **Linear or Exponential**  **Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |
| My 2nd term is 20 and my 6th term is 12500. **Find my ratio AND my missing terms.** | Graph the following: | **Find the** **slope** given the following two coordinates:    **Write the equation:** |
| Write the domain of the problem to the right.  **Interval Notation:**  **Inequality Notation:** | Write the equation of the following: | Write the range of the problem to the left.  **Interval Notation:**  **Inequality Notation:** |
| State which one has a greater rate of change:   1. Johnny owes 20 dollars on his lunch account 2. Suzie has 18 dollars to spend on her lunch account | What does a graph with a slope of **Undefined** look like?   1. Rises from left to right 2. Falls from left to right 3. Vertical line 4. Horizontal line | Write the explicit formula for the sequence below and then find the 30th term.  -11, -7, -3, 1  Explicit:  A(30)= |
| Solve the following: | Find the slope given the following two coordinates: | Given the following, write the **point-slope** formula: |
| Find the x-intercept and y-intercept of the following:    x-int: \_\_\_\_\_\_\_\_ y-int: \_\_\_\_\_\_\_\_ | Given the point-slope formula, write the slope-intercept form: | Find the x-intercept and y-intercept of the following:    x-int: \_\_\_\_\_\_\_\_ y-int: \_\_\_\_\_\_\_\_ |
| Write the equation for the following scenario: A library has 8000 books and is adding 50 more each year: | Write the explicit formula for a geometric sequence where the second term is 10,000 and the 5th term is 80. | There are 20,000 owls in the wild. Every decade, the number of owls is halved. Is this:  **Linear or Exponential**  Write the equation for the scenario: |
| Write the equation for the following and fill in the blanks:   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | X | 1 | 2 | 3 | 4 | 5 | | y | -10 |  |  | -80 |  | | A bank account starts with $50. Every month, the amount of money in the account quadruples. Is this:  **Linear or Exponential**  Write the equation for the scenario: | Write the equation for the following and fill in the blanks:   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | X | 1 | 2 | 3 | 4 | 5 | | y | 5 |  |  |  | 17 | |