**General form of a logarithmic function:**

1. Identify the horizontal intercept of a logarithmic function.
2. Explain why there is NOT a vertical intercept for a logarithmic function.
3. Below is the graph of the function: .



* 1. Label the horizontal intercept on the graph.
  2. Using the graph, describe the end behavior for a logarithmic function.
  3. Write the equation of the vertical asymptote.
  4. What is the domain of a logarithmic function?
  5. What is the range of a logarithmic function?

**Lab Follow-Up PART 1: -- Due Monday, March 10 -** Complete the table by describing the characteristics of each function.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Linear** | | **Exponential** | | **Logarithmic** | **Pendulum Lab** |
| m > 0 | m < 0 | a > 1 | 0 < a < 1 |
| 1. General Form of the Equation |  | |  | |  | N/A |
| 1. Graph  * Sketch a graph of the function |  |  |  |  |  |  |
| 1. Overall function behavior:  * Is the function increasing or decreasing? |  |  |  |  |  |  |
| 1. Average Rate of Change  * Is the average rate of change constant, increasing or decreasing? |  |  |  |  |  |  |
| 1. Horizontal Intercepts:  * Are there horizontal intercepts? (Yes or No?) |  |  |  |  |  |  |
| 1. Vertical Intercepts:  * Is there a vertical intercept? (Yes or No?) |  |  |  |  |  |  |
| 1. Horizontal Asymptote:  * Is there a horizontal asymptote? If so, what is the equation? |  |  |  |  |  |  |
| 1. Vertical Asymptote:  * Is there a vertical asymptote? If so, what is the equation? |  |  |  |  |  |  |
| 1. Domain    * Identify the domain of the function. |  |  |  |  |  |  |
| 1. Range    * Identify the range of the function. |  |  |  |  |  |  |
| 1. End Behavior  * Describe the end behavior of the function. |  |  |  |  |  |  |

**Lab Follow-Up PART 1: -- Due Monday, March 10th -** Use the spreadsheet to answer the questions below.

1. Does the Pendulum lab appear to be linear? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Justify your answer with three characteristics from the spreadsheet. Characteristics can be listed in bullet form.



1. Does the Pendulum Lab appear to be exponential? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Justify your answer with three characteristics from the spreadsheet. Characteristics can be listed in bullet form.

1. Does the Pendulum Lab appear to be logarithmic? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Justify your answer with three characteristics from the spreadsheet. Characteristics can be listed in bullet form.