**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.