**PHASE 2: Analyze**

Let’s analyze some functions before we pick our own. Fill in the table for the following equations.

y = 4x y = 7x + 2 y = 2x2 y = $\frac{1}{2}$x + 3 y = x3 + 2

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Function | x = 1 | x = 2 | x = 3 | x = 4 |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

**Questions**:

 Do all the functions grow in size at the same rate? Which one grows fastest? Slowest? Think about Linear Functions Vs Exponential Functions.

What causes some functions to grow faster than others? (Point out the specific part of the function)

List the shapes and their dimensions again, this time writing your chosen growth function after each of them. (Remember to keep in mind the properties that you will be analyzing when choosing your functions.)

Shape - Description within Object

 Dimension 1 - Function - Explanation of why you picked this function

Dimension 2 - Function - Explanation of why you picked this function

Dimension 3 - Function - Explanation of why you picked this function

Tables

Example!

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dimension | Growth 1 | 2 | 3 | 4 |
| Rectangular Prism Width(2x) | 2cm | 4cm | 6cm | 8cm |
| Rectangular Prism Height(x2 + 1) | 2cm | 5cm | 10cm | 17cm |

**Tables for Dimensions**

**Tables for Properties**

**Write the equations for each of your properties here.**

1) Volume -

2) Surface Area -

3)

4)

**Guess and Check Area**