$\qquad$
Period: A1 A2 A3 B1 B3
1.2.2 How can I model it?

Modeling a Geometric Relationship

| \#73 |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Table: <br> height |  |  |  |  |  |  |  |  |  |
|  | length | width | volume |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |

\#75
a. Draw a diagram of one of your boxes.

3D
Net
b. Work with your team to write an equation for the volume (output) using the generalized height (input) you chose in part (a).

| \#76 |  |
| :--- | :--- |
| a. Is the domain of the relationship limited? <br> That is, are there some input values that do <br> not make sense? Why or why not? | b. Is the range of the relationship limited? <br> That is, what are all of the possible volumes <br> (outputs)? Are there any outputs that do not <br> make sense? Why or why not? |
|  |  |
| c. Should you connect the points on your <br> graph with a smooth curve? That is, should <br> your graph be continuous or discrete? <br> Explain. | d. Fully describe the graph. |

\#77 What graph do you get when you use a graphing calculator to draw the graph of your function? Explain the relationship between this graph and the graph you made on your own paper. How can you tell from the equation that the graph will not be a parabola?

