**Function Applications – Volume of a Cube**

*s*

 *s*

*s*

A packaging company is designing a new line of gift boxes. They want each box to be shaped like a cube, where the side lengths are all equal. **Create a function that models** the

volume, ***V****,* of the box in cubic inches based on the side length, **s**, of the box in inches.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Independent variable:
2. Dependent variable:
3. Use function notation to express the function:
4. We can say \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a

function of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.1. Write a sentence to express the meaning of the following equation. *V*(4) = 64
2. What are the domain and range of this function?
3. Describe the shape of this graph. Use the Parent Function Reference Sheet.
 | Complete the table below:

|  |  |
| --- | --- |
| **Input**Length of Side | **Output**Volume |
| 0 |  |
| 1 |  |
| 1.5 |  |
| 2 |  |
| 2.5 |  |

Graph the function on the axes below.Scale and label the axes.C:\Users\TRAVEL\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\G5RXD1SG\highway version c.png |