**Function Applications – Volume of a Cube**

*s*

*s*

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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.

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| 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 |