**Function Applications – Height of a Ball**

Ben’s free throw follows a curved path. It goes up and then back down. The table below shows the height of the ball at several moments in time. The height of the ball ***h*** (in meters) at time ***t*** (in seconds) is given by the equation .

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| 1. Independent variable: 2. Dependent variable: 3. Write the equation for this function: 4. Use function notation to express the function: 5. We can say \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is   a function of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.   1. Find the height of Ben’s shot after 1.5 seconds. Use function notation. 2. Find the time it takes for Ben’s shot to be 6 meters above ground (from the graph). 3. What are the domain and range of this function? 4. Describe the shape of this graph. Use the Parent Function Reference Sheet. | |  |  | | --- | --- | | **Time**  **(seconds)** | **Height (meters)** | | 0 | 1 | | .4 | 4.2 | | .8 | 5.8 | | 1.0 | 6 | | 1.2 | 5.8 | | 1.6 | 4.2 | | 2.0 | 1 |   Graph the function on the axes below. |
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