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Grade 08, Unit 06, Lesson 02: Identify a relation as a function from various representations

1. Determine which mapping represents a function. Justify your answer.


Mapping $A$


Mapping B
2. Ashley's club is selling t-shirts as a fundraiser. Ashley records the number of t-shirts sold and the profit to monitor her club's progress. Is the profit earned a function of the number of $t$-shirt sold?

| T-shirts Sold | Profit (\$) |
| :---: | :---: |
| 0 | -750 |
| 3 | -705 |
| 5 | -675 |
| 10 | -600 |
| 11 | -585 |
| 18 | -480 |

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3. Use the input and output values to create a mapping that represents a function.

4. The graph below shows the relationship between a number and the square of that number. Does this relationship represent a function?

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5. Based on the table below, is the number of shots you attempt in a basketball game a function of the shots you make, or is the number of shots you make a function of the number of shots attempted? Use the tables to justify your answer.

| Shots <br> Attempted | Shots Made |
| :---: | :---: |
| 1 | 0 |
| 2 | 0 |
| 3 | 1 |
| 4 | 1 |
| 5 | 6 |
| 6 |  |


| Shots Made | Shots <br> Attempted |
| :---: | :---: |
| 0 | 1 |
| 0 | 2 |
| 1 | 3 |
| 1 | 4 |
| 3 | 6 |
| 6 |  |

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6. The graph below shows the height of a football after it is kicked. Is the height a function of time?

7. Omar was telling his friends about a recent bicycle ride he took. He said that after an hour he had gone 15 miles. After 2 hours Omar shared that he had gone 28 miles. Omar reached 40 miles in 3 hours and ended his ride in 4 hours after going 49 miles. Represent this relation as a mapping, a table, or a graph. Identify whether the distance Omar traveled is a function of time.

