

Modeling Periodic Phenomena with Trigonometric Functions - Matching Worksheet

Match the word problems to their answers. Write the letter of the answer that matches the problem.

_____ 1. For each set of data, draw a scatter plot and decide whether or not the data exhibits approximately periodic behavior

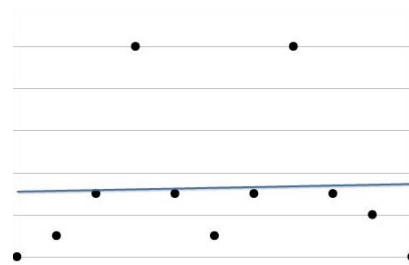
a

| | | | | | | | |
|---|---|---|---|----|---|---|---|
| x | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| y | 0 | 5 | 0 | -4 | 0 | 5 | 0 |

b

| | | | | | |
|---|----|---|---|---|---|
| x | 0 | 1 | 2 | 3 | 4 |
| y | 10 | 8 | 2 | 8 | 9 |

a.



_____ 2. The following tabled values show the height above the ground of a point on a bicycle wheel as the bicycle is wheeled along a flat surface.

| | | | | | | |
|--------------------------|---|----|----|----|----|----|
| Distance travelled (cm) | 0 | 10 | 20 | 30 | 40 | 50 |
| Height above ground (cm) | 0 | 5 | 15 | 50 | 15 | 5 |

| | | | | | |
|--------------------------|----|----|----|----|-----|
| Distance travelled (cm) | 60 | 70 | 80 | 90 | 100 |
| Height above ground (cm) | 15 | 50 | 15 | 10 | 0 |

Plot the graph of height against distance.

b.

| | |
|--|---|
| | <p>Yes, this data displays periodic behavior. We can see the beginning of a cyclical pattern here.</p> |
| | <p>No, this data does not display periodic behavior. We do not see any signs of a repeat value in here.</p> |

