

Name _____

Date _____

Modeling Periodic Phenomena with Trigonometric Functions - Step-by-Step Lesson

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	7	8	9	10	11	12
y	0	1	1.2	1	0	-1	-1.2	-1	0	1	1.2	1	0

b

x	0	1	2	3	4
y	3	1	0	1	3

c

x	0	0.5	1.0	1.5	2.0	2.5	3.0	3.5
y	0	1.4	3	3.5	3.7	3.2	2.7	2.1

d

x	0	2	3	4	5	6	7	8	9
y	0	2.7	3.2	1.5	2.6	5.7	7.7	8.6	6.4

Explanation:

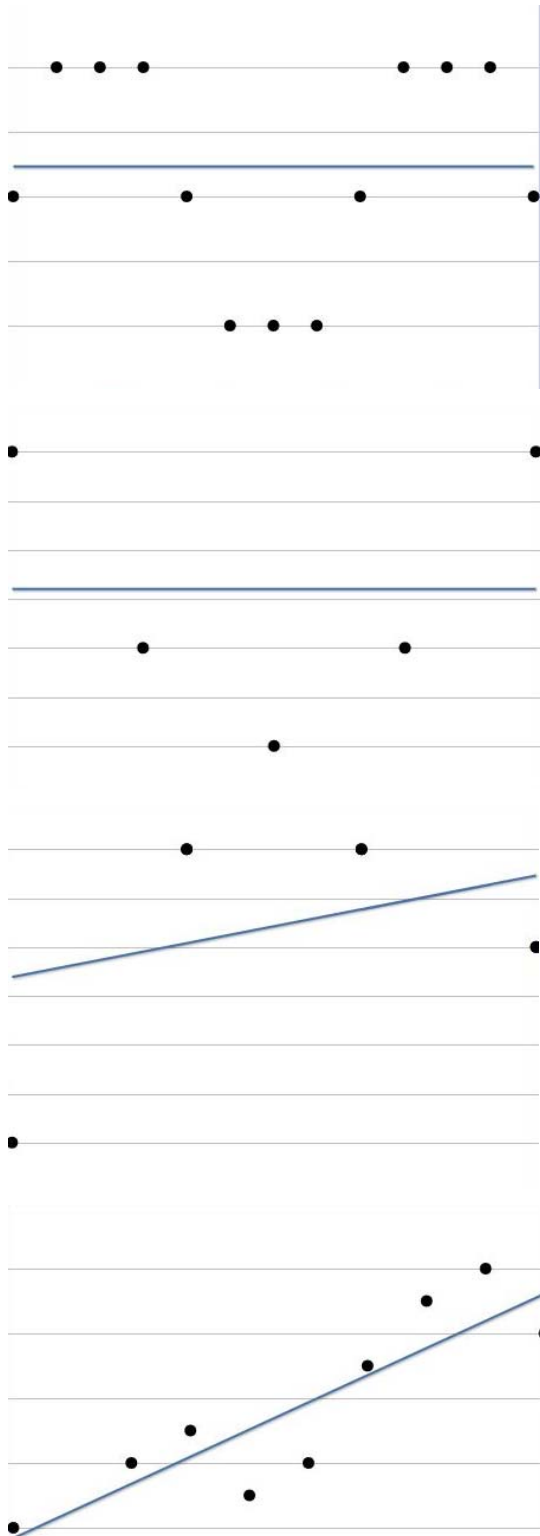
Any phenomena that has a behavior or pattern that repeats over time; in a somewhat predictable cyclic manner is referred to as periodic.

We will need to make four scatter plots and see if there is a repetitive pattern in any of the graphs.



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Yes, this data displays periodic behavior. We can see the beginning of a cyclical pattern here.

No, this data does not display periodic behavior. We do not see any signs of a repeat value in here.

No, this data does not display periodic behavior. We do not see any signs of a repeat value in here.

This data does display periodic behavior. You need to remember that periodic behavior is not perfect, but approximate. In this case the data seems to move back and forth across the line.

