What does it mean if something is Periodic?

Merriam-Webster SINCE 1828

Definition of PERIODIC

1 a
:
occurring or recurring at regular intervals

b
:
occurring repeatedly from time to time

2 a
:
consisting of or containing a series of repeated stages, processes, or digits
:
CYCLIC • *periodic* decimals • a *periodic* vibration

b
:
being a function any value of which recurs at regular intervals

Section 13-1: Periodic Functions

What you should be able to do after this section:

- Tell if a function is periodic or not.
- Identify a cycle
- Find the following of periodic functions:
  - Period
  - Amplitude
  - Equation of the Midline(Axis)

Periodic function: A repeating pattern of y-values at regular intervals.

Cycle: One complete pattern.
The smallest portion of the function that could be translated left and right to create the entire function.

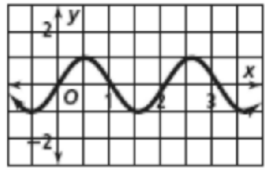
Period: The width of one cycle (x-values)

Amplitude:
The vertical distance from the midline to either the maximum or the minimum. y-values
OR
Half the total height of the periodic function

Midline (also called the Axis):
The horizontal line that passes through the middle of the graph.

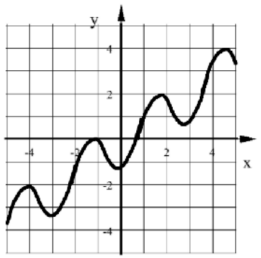
1. Is each of the below a periodic function? If no, explain why.

a.



Yes, this is periodic because the same y-values repeat every four units

b.



No, because the y-values don't repeat, they increase.