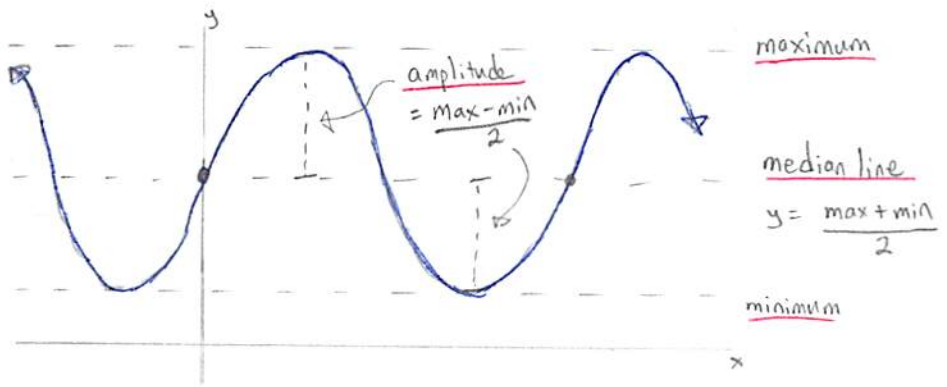
Sinusoidal Functions

State characteristics and solve contextual problems when given...

GRAPH



or or

EQUATION - $y = a\sin(bx+c) + d$

↳ Analyze parameters a, b, d

- a = amplitude
- $\frac{2\pi}{b}$ = period
- y = d, equation of median line
- d + a = maximum
- d - a = minimum

↳ Enter equation in Graphing Calculator and analyze.

- Radian mode, usually
- Use characteristics from parameters to help with Window settings.

TABLE OF VALUES

x					
y					

- Perform a sinusoidal regression with Graphing Calculator.

  [C: SinReg] → $y = a\sin(bx+c) + d$

- Use equation from regression to solve problems.

DESCRIPTION

- Use problem description to generate a table of values.
- Use table of values and regression to get an equation.
- Use equation to graph and solve problems.

DESCRIPTION → TABLE OF VALUES → EQUATION → GRAPH

↳ Explain how changes to the context will change the graph of a sinusoidal function.