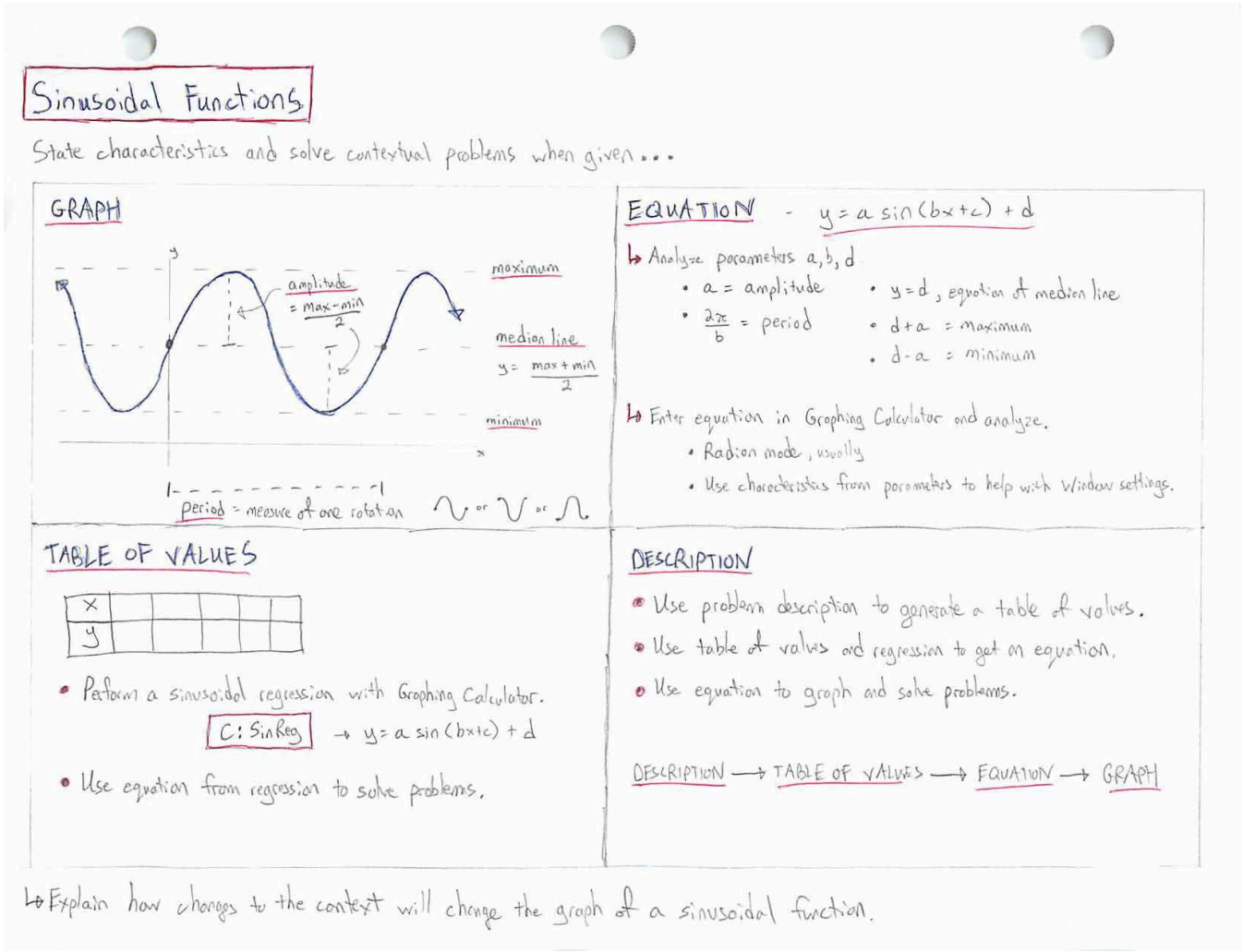
Sinusoidal Functions - Engaging Resources

RF SO8 - Sinusoidal Functions Concept Summary Sheet

(Download: Sinusoidal Concept Map.pdf)

This chart may help students see the big picture and the connections within the topic.



RF SO8 - Ferris Wheel Investigation

(Download: FerrisWheelInvestigation.docx)

This investigation may assist students in visualizing circular motion and the connection between a sinusoidal equation and graph. The investigation also includes a second Ferris Wheel with differing characteristics from the first.

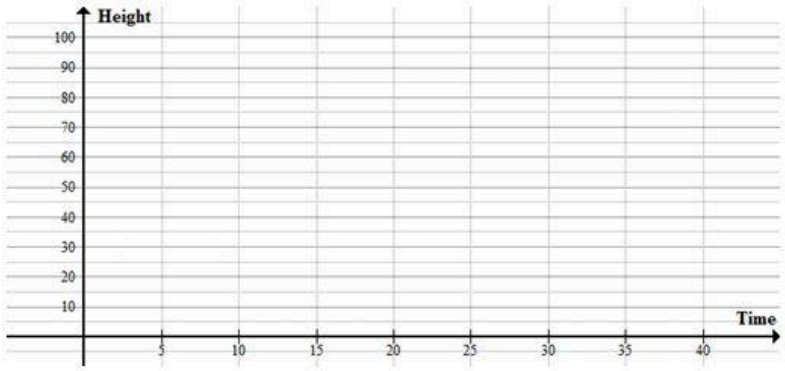
Ferris Wheel #1

A Ferris Wheel has a diameter of 100 meters. It takes 20 minutes to go around the Ferris wheel once. The lowest point, where you enter the Ferris wheel is 0 meters above the ground.

a) Complete the table of values below showing the height of the Ferris Wheel over time, starting at the lowest point.

Time (min)	0	5	10	15	20	25	30	35	40
Height (m)									

b) Sketch a scatterplot of the height of the Ferris Wheel over time, based on the table of values.



c) Use regression to calculate a sinusoidal function that best models this data.

STAT – CALC – C: SinReg $y = a\sin(bx+c)+d$ **Make sure calculator is in Radian Mode!**

Write the regression equation below and sketch the line of best fit on the scatter plot above.

d) Complete the table below:

From Graph / Description:	From Equation:
radius =	a =
average/middle height =	d =
time to go around once =	$\frac{2\pi}{b} =$