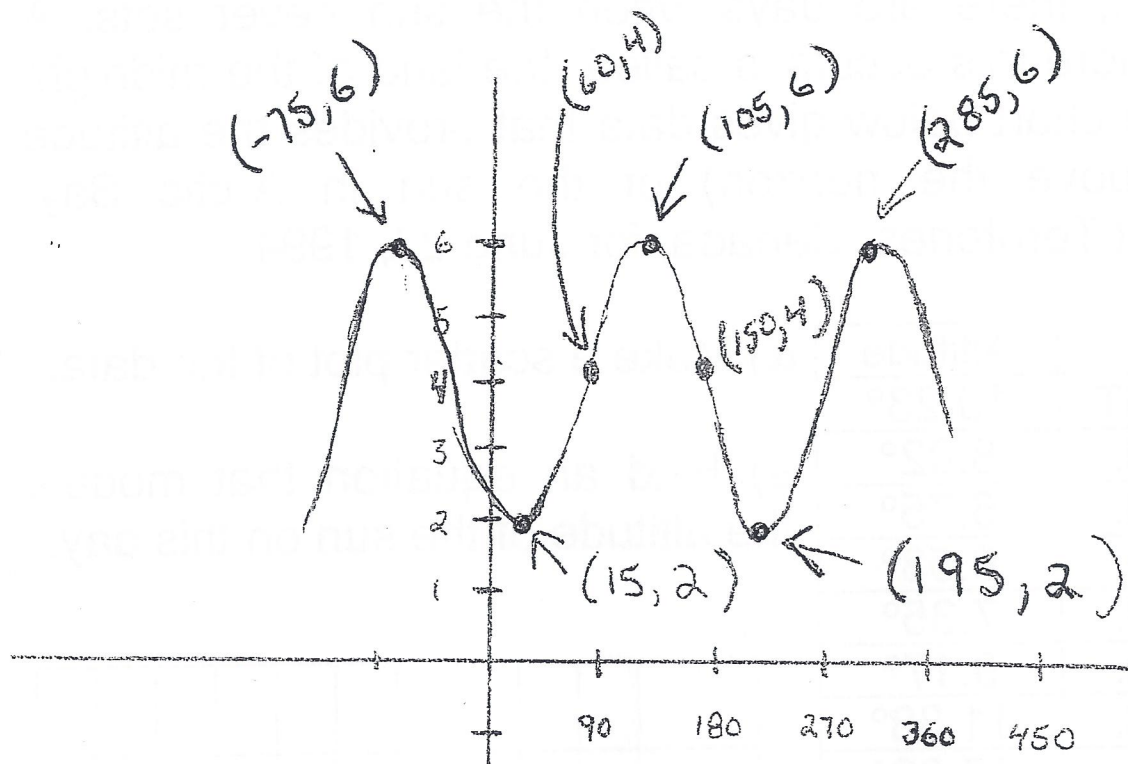


1) WRITE AN EQUATION FOR THE FUNCTION BELOW. USE THE PARENT FUNCTION $y = \sin(x)$



$y =$

This table shows the mean monthly high temperatures in Barstow, California. Use this information for Exercises 12-14.

Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Number	1	2	3	4	5	6	7	8	9	10	11	12
Temp. (°F)	59	63	70	77	84	96	101	100	92	80	70	60

- Graph the data. Let x = the number of the month and y = the high temperature. What type of function would best model this data? Why?
- Give the amplitude, period, and equation of the axis for the graph of the high temperature data.

Write an equation to model the data. USE PARENT FUNCTION $y = \sin x$

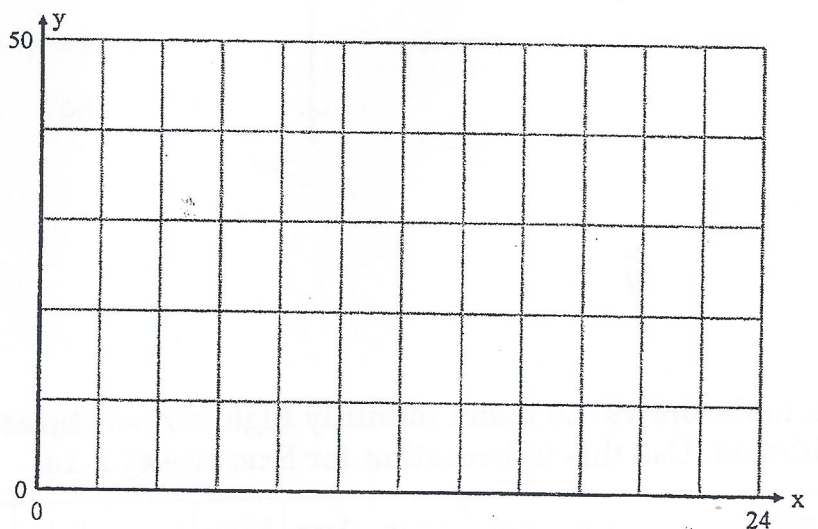
5)

In the northern latitudes around the beginning of summer, (June 21), there are days when the sun never sets. A region where this occurs is called "the land of the midnight sun." The chart below gives data that provides the altitude (angle above the horizon) of the sun in Arctic Bay, Northwest Territories, Canada, for June 23, 1994.

Time	Altitude
MIDNIGHT	10.23°
1:00 A.M.	8.02°
2:00 A.M.	6.75°
3:00 A.M.	6.53°
4:00 A.M.	7.35°
5:00 A.M.	9.17°
6:00 A.M.	11.88°
7:00 A.M.	15.32°
8:00 A.M.	19.30°
9:00 A.M.	23.58°
10:00 A.M.	27.93°
11:00 A.M.	32.07°
NOON	35.65°
1:00 P.M.	38.40°
2:00 P.M.	40.02°
3:00 P.M.	40.32°
4:00 P.M.	39.25°
5:00 P.M.	36.97°
6:00 P.M.	33.70°
7:00 P.M.	29.77°
8:00 P.M.	25.48°
9:00 P.M.	21.13°
10:00 P.M.	16.98°
11:00 P.M.	13.28°

a) Make a scatter plot of the data.

b) Find an equation that models the altitude of the sun on this day.



LABEL BOTH AXIS