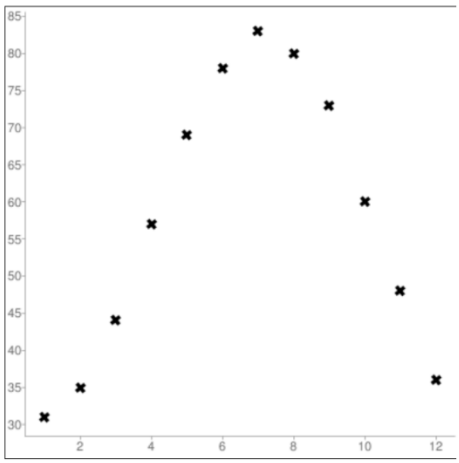
Average Montly Temperature
Detroit, Michigan

Make a scatter plot on the graphing calculator of this data.

L_1	L_2
Month	Average High Temp $^\circ F$
Jan → 1	31
Feb → 2	35
March → 3	44
April → 4	57
May → 5	69
June → 6	78
July → 7	83
Aug → 8	80
Sept → 9	73
Oct → 10	60
Nov → 11	48
Dec → 12	36

Making a scatter plot of this weather data shows what appears to be part of a Sine graph. This means that we



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L_1	L_2
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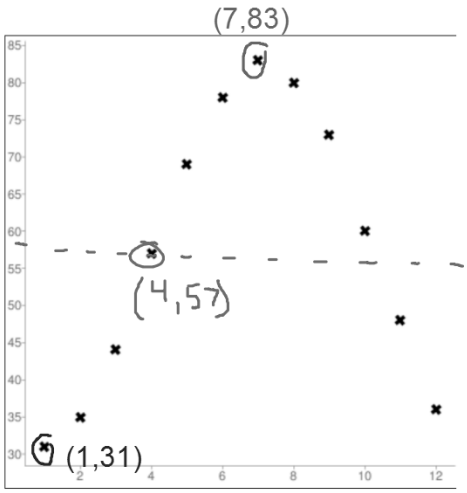

Midline: $\frac{31+83}{2}$

$y = 57$

Amplitude:

$\frac{83-31}{2} = 26$

Starting point must be on the midline: (4,57) is the only point on the midline.

Phase Shift: 4 RT

Period: 12 every 12 month this data will repeat.

$b = \frac{2\pi}{12} = \frac{\pi}{6}$

$$y = 26 \sin\left(\frac{\pi}{6}(x-4)\right) + 57$$

a is pos because graph goes up from the starting point.