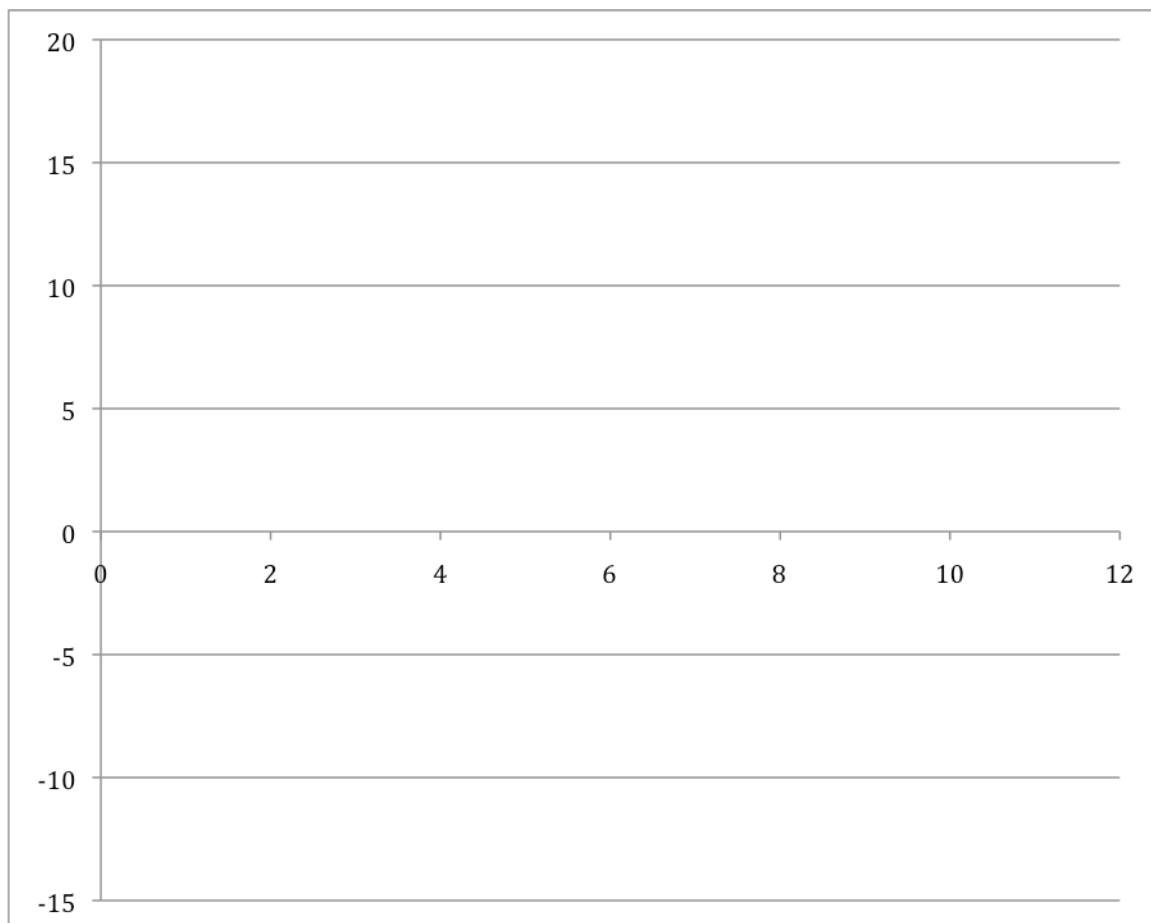


A pattern that repeats itself regularly is called periodic. This can be modeled using a sinusoidal function.

Ex. The following table lists average monthly low temperatures in Toronto for one year.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
-10	-10	-4	1	6	11	14	13	9	4	0	-6

- Estimate the amplitude and period of this data.
- Determine an equation to model this data.
- Graph the equation and data below.



Ex. A tide chart at a coastal marina lists the following information one day: 5.1 m high tide at 3:40 am and 2.4 m low tide at 9:50 am. The next high tide will be at 4:00 pm. Estimate the period and amplitude of the tide height at this location, and predict the time of the next low tide.

Homework:

1. p. 291 # 14.

2. The following table lists average monthly high temperatures in Toronto for one year.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
-2	-1	4	11	18	24	27	26	21	14	7	0

- Estimate the amplitude and period of this data.
- Determine an equation to model this data.
- Graph the equation and data below.

