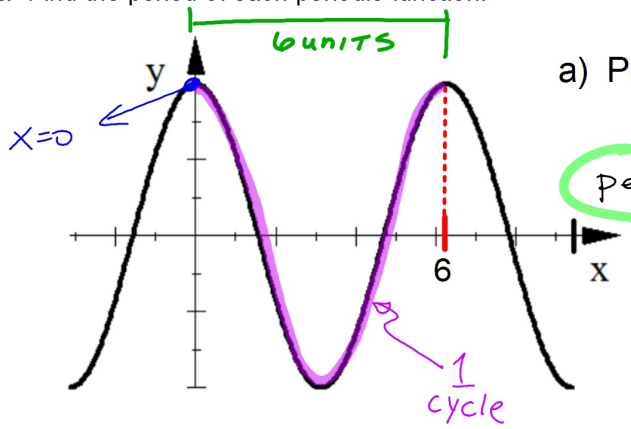
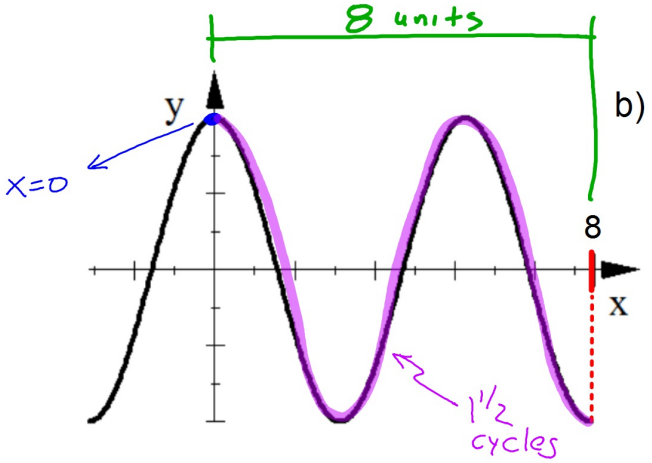
2. Find the period of each periodic function.



a) Period = $\frac{6 \text{ units}}{1 \text{ cycle}}$

Period = 6

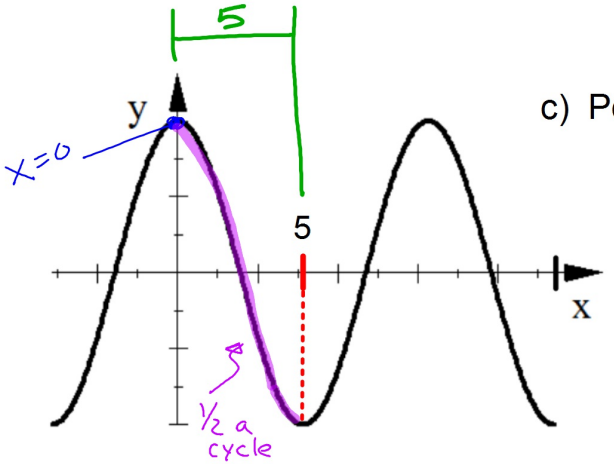


b) Period = $\frac{8 \text{ units}}{1\frac{1}{2} \text{ cycles}}$

$= \frac{8}{3/2}$

$= 8 \cdot \frac{2}{3}$

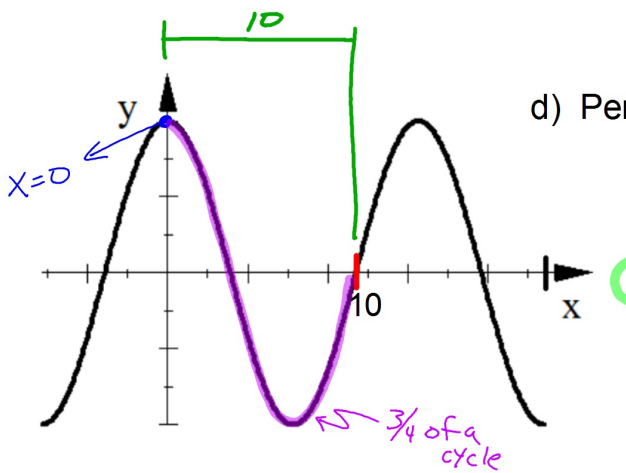
Period = $\frac{16}{3}$



c) Period = $\frac{5 \text{ units}}{\frac{1}{2} \text{ cycle}}$

$= 5 \cdot \frac{2}{1}$

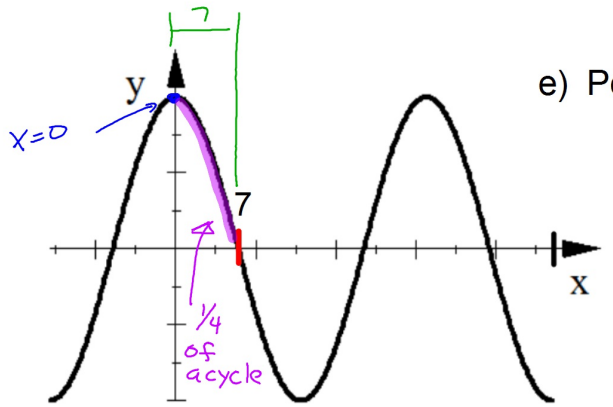
Period = 10



d) Period = $\frac{10 \text{ units}}{\frac{3}{4} \text{ cycle}}$

$= 10 \cdot \frac{4}{3}$

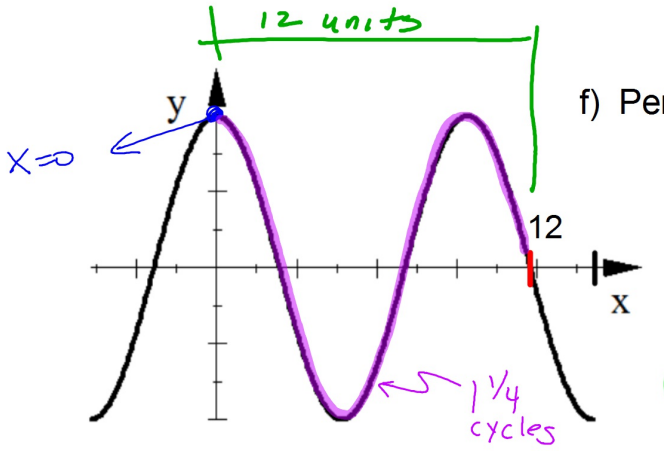
Period = $\frac{40}{3}$



e) Period = $\frac{7 \text{ units}}{1/4 \text{ cycle}}$

$= 7 \cdot \frac{4}{1}$

period = 28



f) Period = $\frac{12 \text{ units}}{1\ 1/4 \text{ cycles}}$

$= \frac{12}{5/4}$

$= 12 \cdot \frac{4}{5}$

period = $\frac{48}{5}$

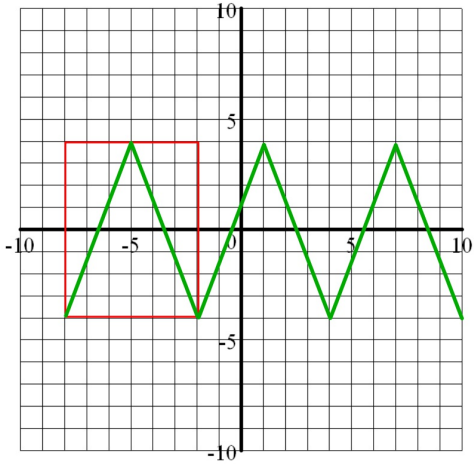
Draw a periodic function with the following properties:

Period = 6
Amplitude = 4

The period means that the cycle must be 6 units wide.

The amplitude means that the cycle must be a total of 8 units tall.

An example is shown at the right.



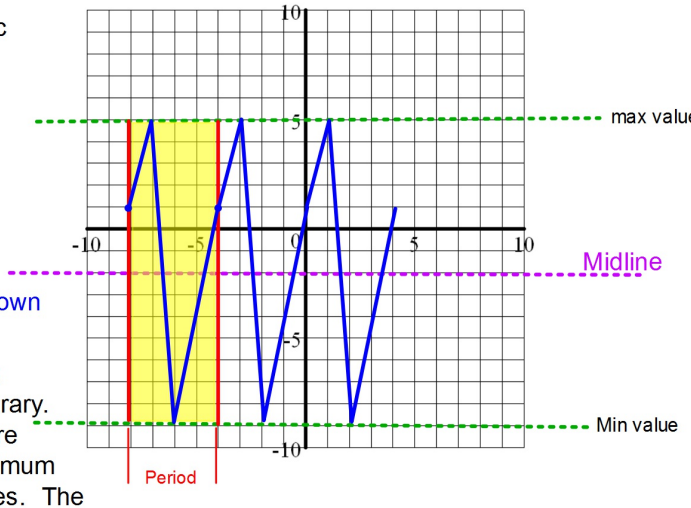
A cycle must be contained inside a rectangle that is 6 units wide by 8 units tall.

The starting point is arbitrary. Within this rectangle the begining point and ending point of any cycle must have the same y-coordinate and are separated by one period. And at some time within the cycle the function has to reach the top and bottom of the cycle.

Sketch a periodic function with the following characteristics:

Period = 4
Amplitude = 7
Midline: y = -2

an example is shown at the right



The starting point is somewhat arbitrary. It can be anywhere between the maximum an minimum values. The ending point of a cycle must be at the same y-coordinate as the starting point of a cycle as long as it is one period away.