

① and ②

a) Yes it is periodic.

$$\begin{aligned}\text{Period} &= 4 - (-1) \\ &= 5\end{aligned}$$

$$\begin{aligned}\text{Amplitude} &= \frac{2 - (-1)}{2} \\ &= \frac{3}{2} \text{ OR } 1.5\end{aligned}$$

b) Not periodic

c) Yes it is periodic

$$\begin{aligned}\text{Period} &= 6 - 0 \\ &= 6\end{aligned}$$

$$\begin{aligned}\text{Amplitude} &= \frac{1 - (-1)}{2} \\ &= \frac{2}{2} \\ &= 1\end{aligned}$$

d) Yes it is periodic

$$\begin{aligned}\text{Period} &= 4 - 0.5 \\ &= 3.5\end{aligned}$$

$$\begin{aligned}\text{Amplitude} &= \frac{1.5 - 0}{2} \\ &= 0.75\end{aligned}$$

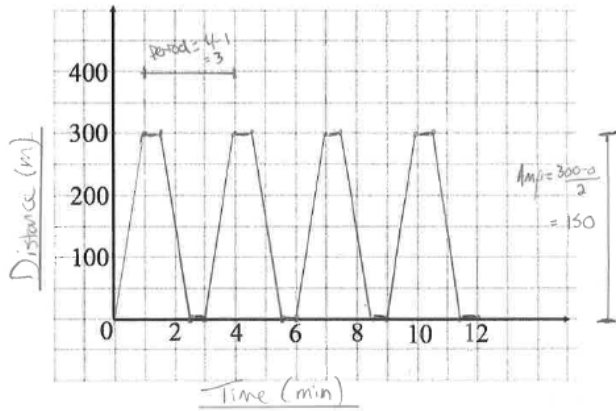
$$\begin{aligned}\textcircled{3} \text{ a) } f(9) &= f(9-8) \\ &= f(1) \\ &= -3\end{aligned}$$

$$\begin{aligned}\text{b) } f(29) &= f[29-3(8)] \\ &= f(29-24) \\ &= f(5) \\ &= 2\end{aligned}$$

$$\begin{aligned}\text{c) } f(63) &= f[63-7(8)] \\ &= f(63-56) \\ &= f(7) \\ &= 8\end{aligned}$$

d) not possible.

4) a)



b) Period = $4 - 1$
= 3 minutes

c) Amplitude = $\frac{\text{max} - \text{min}}{2}$
= $\frac{300 - 0}{2}$
= 150 meters

5) a) Period = difference between 6:30 am and 6:50 pm
= 12 hours and 20 minutes

b) Amplitude = $\frac{\text{max} - \text{min}}{2}$
= $\frac{3.3 - 0.7}{2}$
= 1.3 meters

c) 6 hours and 10 minutes between high tide and low tide; therefore
the next low tide is 6 hours and 10 minutes after 6:50 pm
= 1:00 am