

## Quiz one      2nd secondary

A- A vibrator takes 0.5ms to move from position of maximum speed to position of maximum displacement, then:

$$T = 4 \times 0.5 = 2 \text{ ms}$$

1-the periodic time of vibrator is (4, 2, 8, 6) ms.

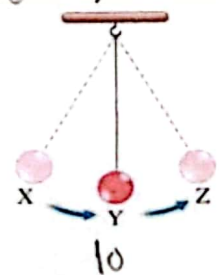
2-the frequency of the vibrator is (0.125, 0.5, 125, 500) Hz.

$$\frac{1}{2 \times 10^{-3}} = 500 \text{ Hz}$$

B- Vibrating body makes complete vibrations each  $1/160$  sec then the number of complete vibrations during one minute is (4800-9600-80-160).

$$T = \frac{t}{N} \quad \rightarrow \quad N = \frac{t}{T} = \frac{60}{1/160} = 9600$$

C-1-if the pendulum vibrates from Z to left if the maximum speed of the pendulum is 10m/sec at equilibrium then after 2.5 cycle, find at which point the position of pendulum will be and what will be its velocity



$$2.5 \rightarrow 0.5 \text{ cycle}$$

at X,  $v = \text{zero}$

2-If the time taken by the pendulum to move between x and z is 4 sec and distance between them is 2cm, find the amplitude and periodic time

$$\text{Amp} = 1 \text{ cm} \quad , \quad T = \frac{t}{N} = \frac{4}{0.5} = 8 \text{ sec}$$

$$\text{or } T = 4 \times t_{\text{amp}} = 4 \times 2 = 8 \text{ sec}$$