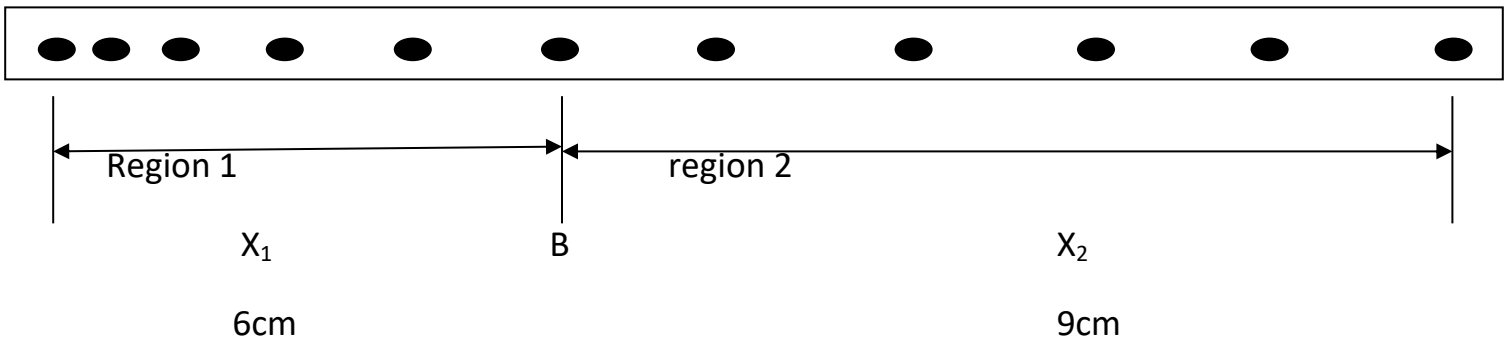


Strand	MECHANICS
Sub Strand	Kinematics
Content Learning Outcome	At the end of the lesson students should be able to Analyze ticker timer tapes and find the acceleration from it

ACCELERATION FROM, TICKER TIMER TAPES

A ticker timer is a device in a lab that can be used to find the velocity and acceleration of a moving object. A tape is inserted in the ticker timer and this is also attached to the moving object. As the object moves it pulls the tape with it. The ticker timer makes marks on the tape. The marks on the tape can be used to find the velocity and the acceleration of the object.

Using formulas to find acceleration or average velocity.



The ticker timer tape will be divided into intervals. (can be either 5dot interval , 10 dot interval, etc).The frequency of the timer is 50hz. The time for one interval is given by

$$T = \frac{1}{f}$$

$$T = \frac{1}{50}$$

$$= 0.02s$$

In our diagram the tape is divided into 5dot intervals. So the time for 5 intervals is $5 \times 0.02 = 0.1s$

The acceleration formula is

$$a = \frac{X_2 - X_1}{t^2}$$

$$a = \frac{9 - 6}{0.1^2}$$

$$= 300\text{cm/s}^2$$

$$= 3\text{m/s}^2$$

Find the acceleration of the object from the following tapes

