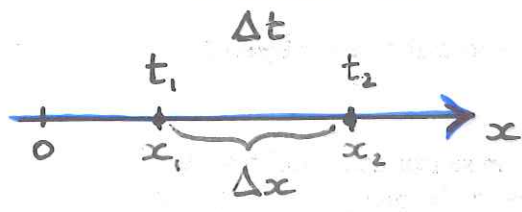


MOTION

* MOTION IN A STRAIGHT LINE



AVERAGE VELOCITY

$$v_{ave} = \frac{\Delta x}{\Delta t} = \frac{x_2 - x_1}{t_2 - t_1}$$

INST. VELOCITY

$$v = \lim_{\Delta t \rightarrow 0} \frac{\Delta x}{\Delta t} = \frac{dx}{dt}$$

AVERAGE ACCELERATION

$$a_{ave} = \frac{\Delta v}{\Delta t} = \frac{v_2 - v_1}{t_2 - t_1}$$

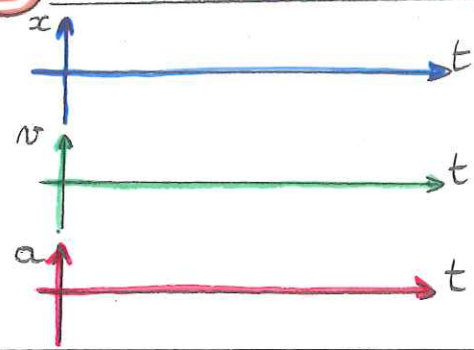
INST. ACCELERATION

$$a = \lim_{\Delta t \rightarrow 0} \frac{\Delta v}{\Delta t} = \frac{dv}{dt}$$

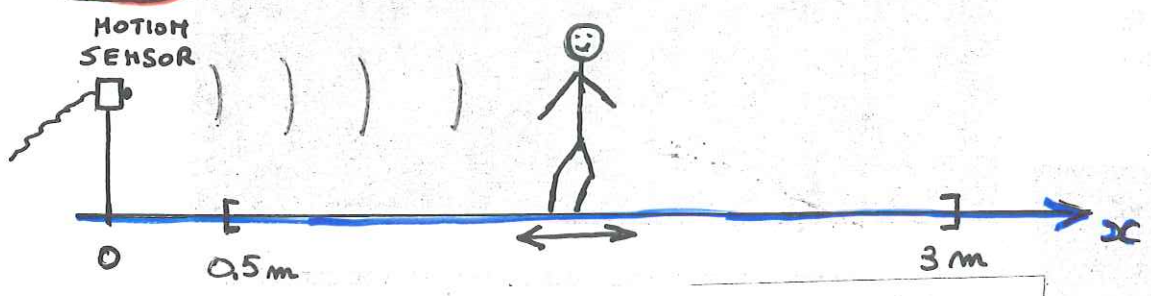
I DESCRIBING MOTION

POSITION: ~~~~~
 ~~~~~  
 VELOCITY: ~~~~~  
 ~~~~~  
 ACCELERATION: ~~~~~
 ~~~~~

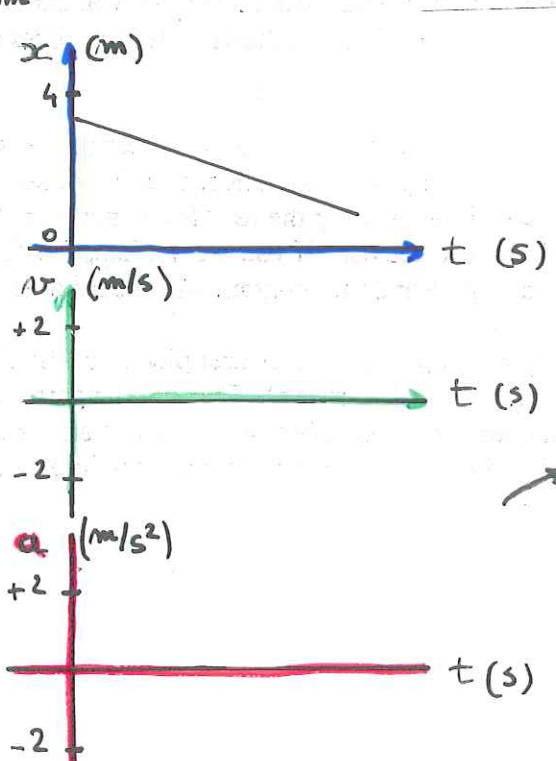
## II GRAPHICAL DESCRIPTION



## PART III DETECTING A MOVING BODY WITH A MOTION SENSOR



ANALYZE:  
3 MOTIONS:



FIRST  
ANALYZE  
MOTION

WORD DESCRIPTION:

~~~~~  
 ~~~~~  
 ~~~~~

... THEN PERFORM
EXPERIMENT
WITH MOTION
SENSOR

PRINT OUT
YOUR GRAPHS
(IF YOUR TA WANTS THEM...)