

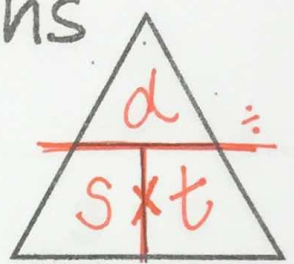
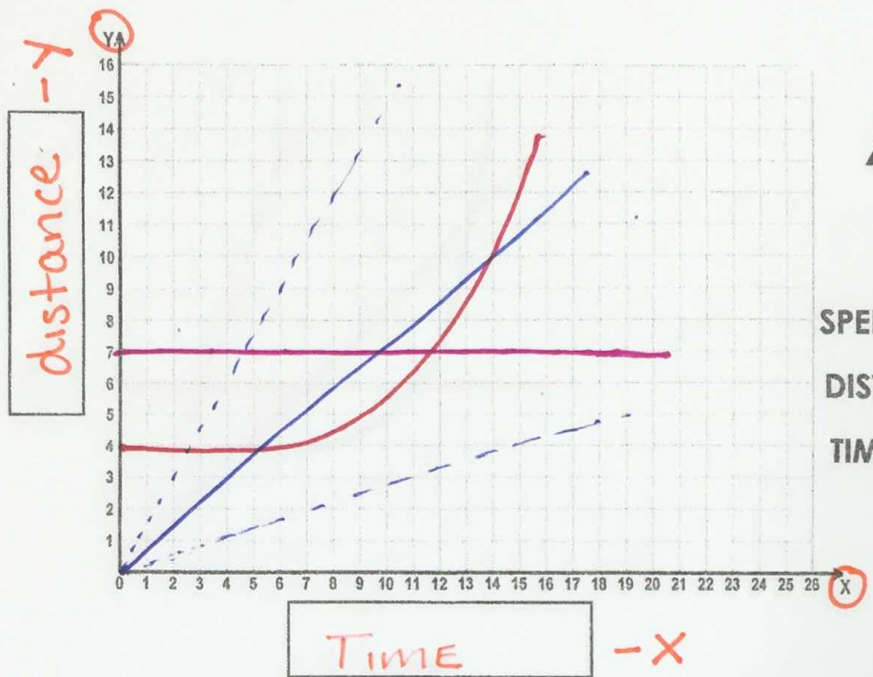
# DISTANCE - TIME Graphs

**MOTION:** The change in position measured by distance & time

**VELOCITY:** The speed and direction of a moving object

**SPEED:** the rate at which an object is moving

**ACCELERATION:** the rate at which speed or direction changes



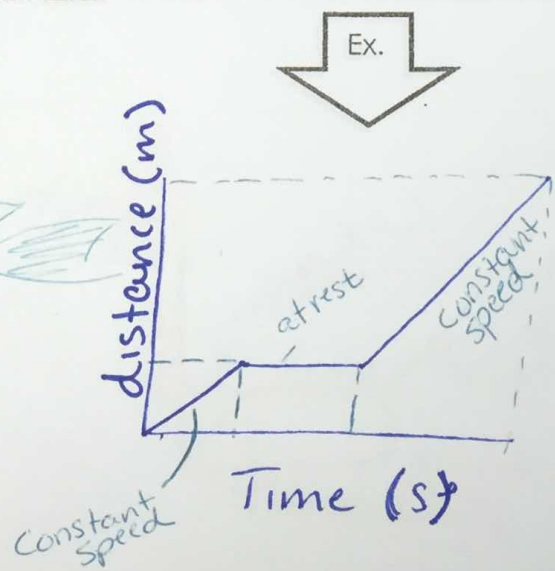
SPEED =  $d \div t$   
 DISTANCE =  $s \times t$   
 TIME =  $d \div s$

A DISTANCE TIME GRAPH SHOWS: how far an object has moved in a certain amount of time.

A HORIZONTAL line means...  
 The object is NOT moving or is 'AT REST'

NOT HORIZONTAL  
 A STRAIGHT line means...  
 The object is traveling at a constant speed  
 The greater the slope, the faster the speed

A CURVED line means...  
 The object is accelerating.  
 Acceleration can mean speed up or slow down.



Ex.  
 ?? An object travels 2 meters in 1 second. It then travels another 3 meters in 3 seconds. What was the objects average speed??

Average Speed =  $\frac{\text{Total distance}}{\text{Total Time}}$   
 $\frac{2 + 3}{1 + 3} = \frac{5}{4} = 1.25 \text{ m/s}$