

Worksheet

$$\textcircled{5} \quad d = 1000.0 \text{ m}$$

$$t = 7.045 \text{ s}$$

$$v = ?$$

$$v = \frac{d}{t}$$

$$v = \frac{1000.0 \text{ m}}{7.045 \text{ s}}$$

$$v = 141.9 \text{ m/s}$$

$$\textcircled{7} \quad d = 200 \text{ km}$$

$$v = 10 \text{ m/s}$$

$$t = ?$$

$$200 \text{ km} \times \frac{1000 \text{ m}}{1 \text{ km}} = \underline{\underline{200000 \text{ m}}}$$

$$t = \frac{d}{v}$$

$$t = \frac{200000 \text{ m}}{10 \text{ m/s}}$$

$$t = 20000 \text{ s}$$

$$= 2.0 \times 10^4 \text{ s}$$

$$\textcircled{9} \quad d = 150 \text{ km}$$

$$t = 95 \text{ min}$$

$$v = ?$$

$$95 \text{ min} \times \frac{1 \text{ h}}{60 \text{ min}} = 1.58 \text{ h}$$

$$v = \frac{d}{t}$$

$$v = \frac{150 \text{ km}}{1.58 \text{ h}}$$

$$v = 95 \text{ km/h}$$

$$1 \text{ m/s} = 3.6 \text{ km/h}$$

$$95 \text{ km/h} \times \frac{1 \text{ m/s}}{3.6 \text{ km/h}}$$

$$= 26 \text{ m/s}$$

Car

$$d = 240 \text{ km}$$

$$t = 2.0 \text{ h}$$

$$v = ?$$

$$v = \frac{d}{t}$$

$$v = \frac{240 \text{ km}}{2.0 \text{ h}}$$

$$v = 120 \text{ km/h}$$

$$11 \text{ m/s} \times \frac{3.6 \text{ km/h}}{1 \text{ m/s}} = 38 \text{ km/h}$$

Sprinter

$$d = 100. \text{ m}$$

$$t = 9.5 \text{ s}$$

$$v = ?$$

$$v = \frac{d}{t}$$

$$v = \frac{100. \text{ m}}{9.5 \text{ s}}$$

$$v = 11 \text{ m/s}$$



Quiz

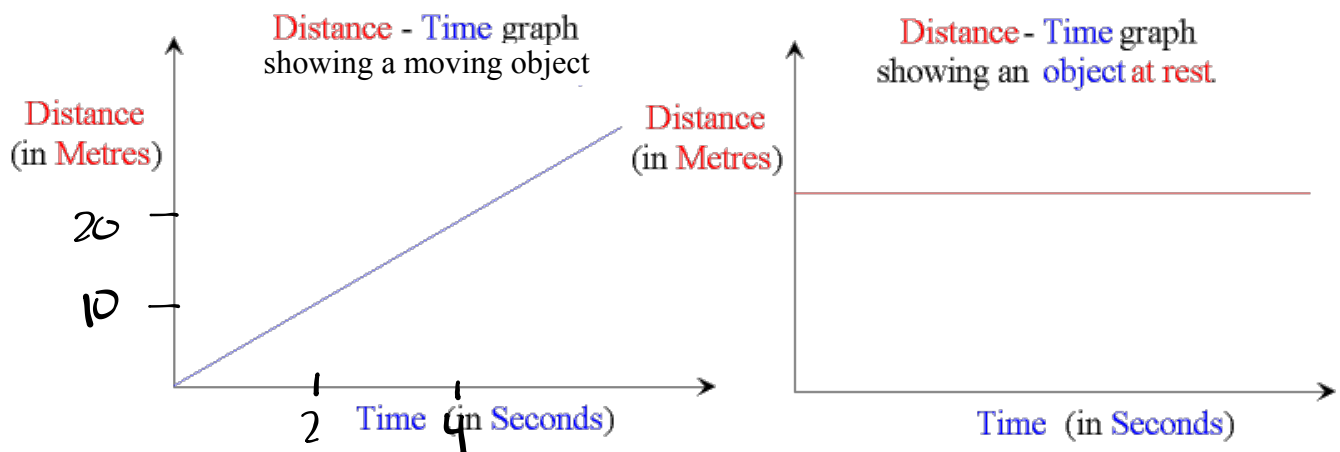
Speed, Distance, Time

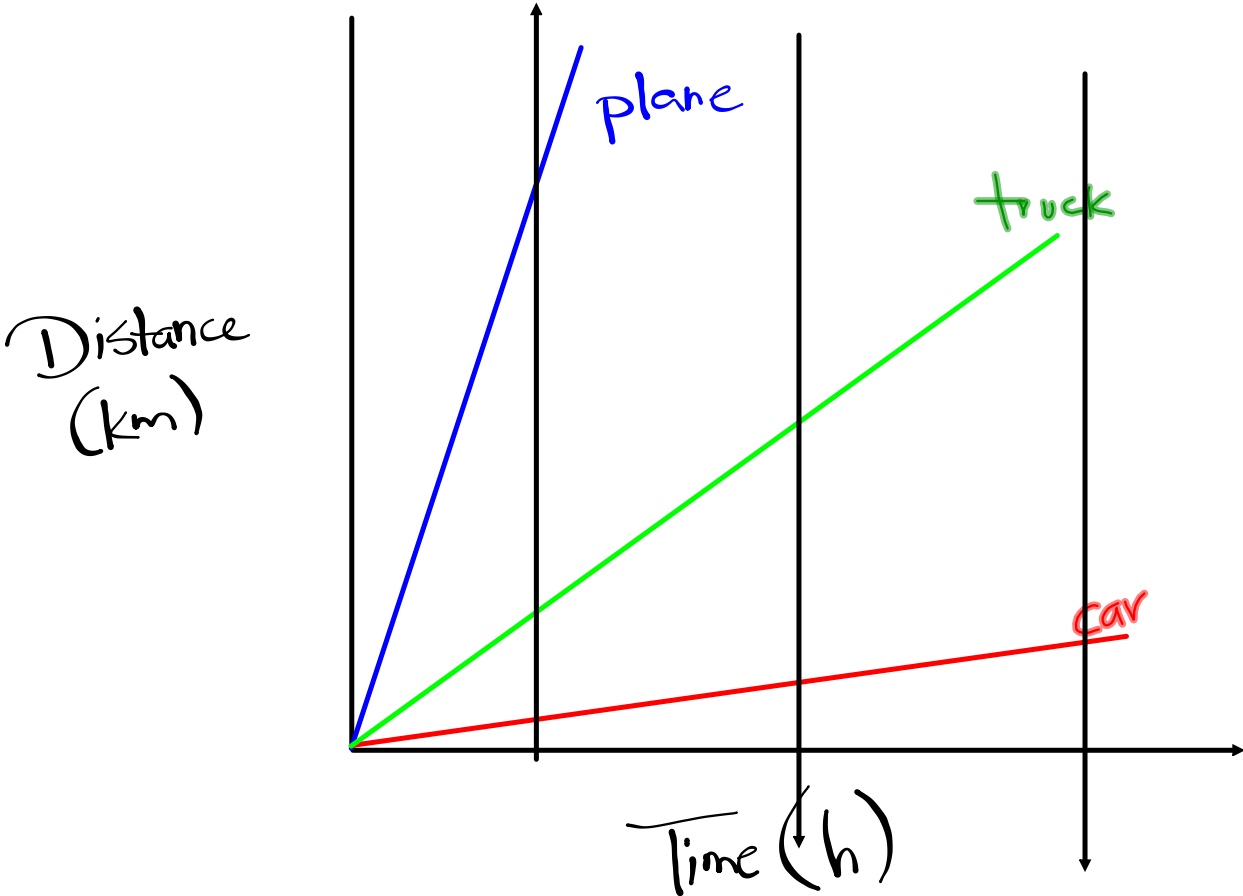
Distance - Time Graphs

Shows the relationship between distance and time.

Distance is plotted on the y-axis and is the dependent variable

Time is plotted on the x-axis and is the independent variable







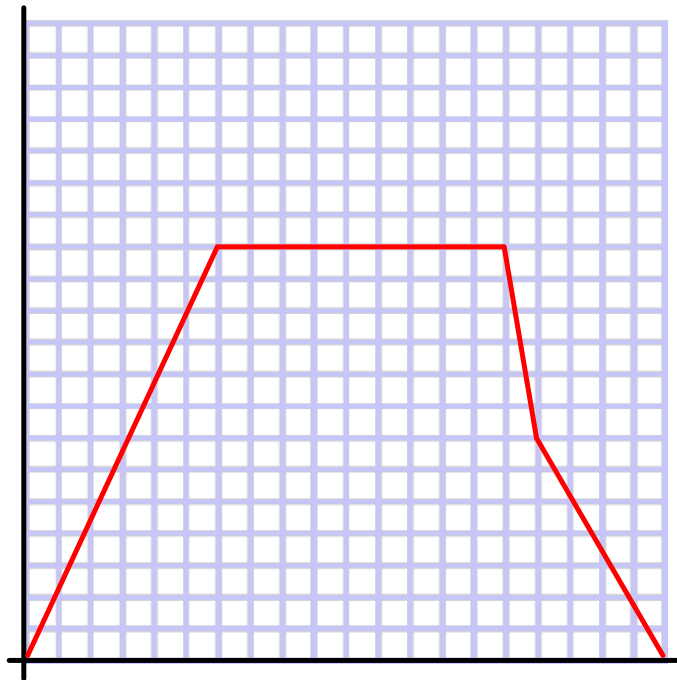
Distance-time graphs

SMART
Technologies



Label the graph.

Click here
for the
answer



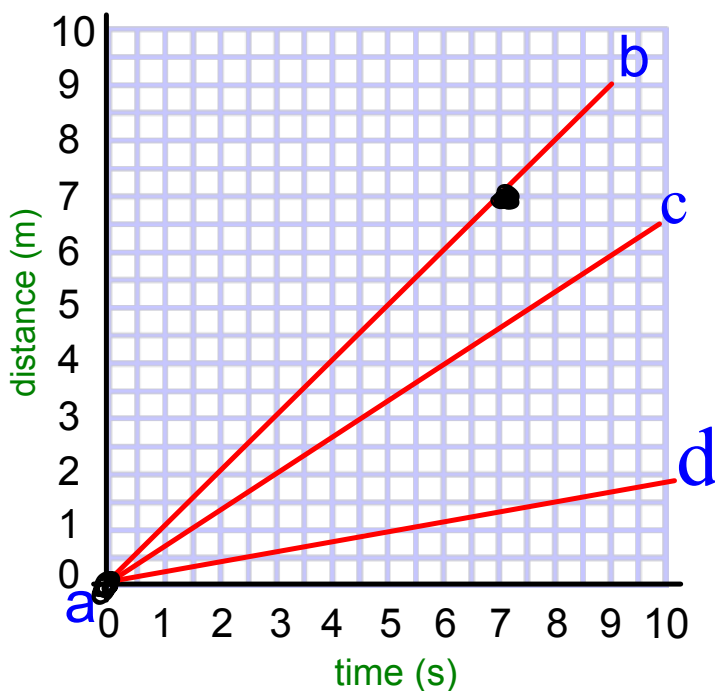
distance

time

moving

stationary

Constant Speed



If an object has a constant speed, it shows as a straight line on a distance-time graph.

The slope of a line on a distance time graph represents the speed.

If you increase the speed the slope will become steeper.

a-b = bike

a-c = run

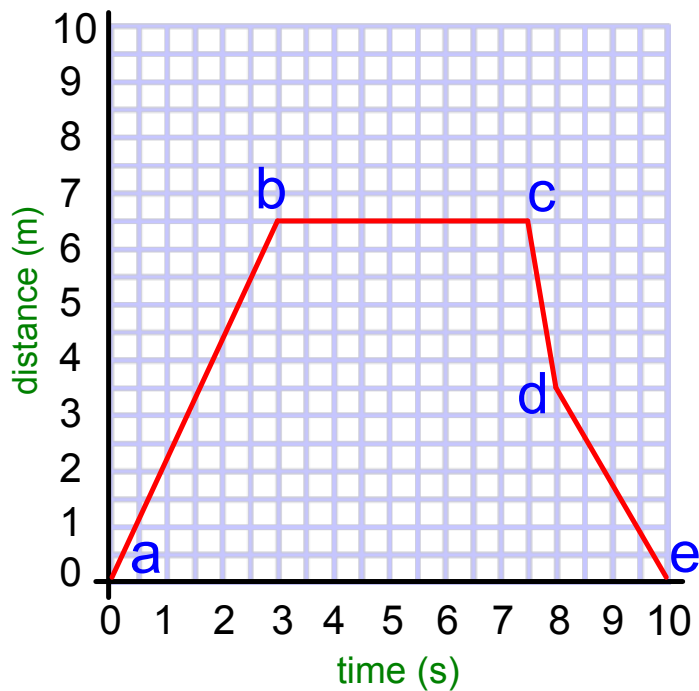
a-d = walk

Based on the following graph which is the fastest way to travel?

$$m = \frac{\text{rise}}{\text{run}} = \frac{7\text{m}}{7\text{s}} = \underline{\underline{1\text{m/s}}}$$



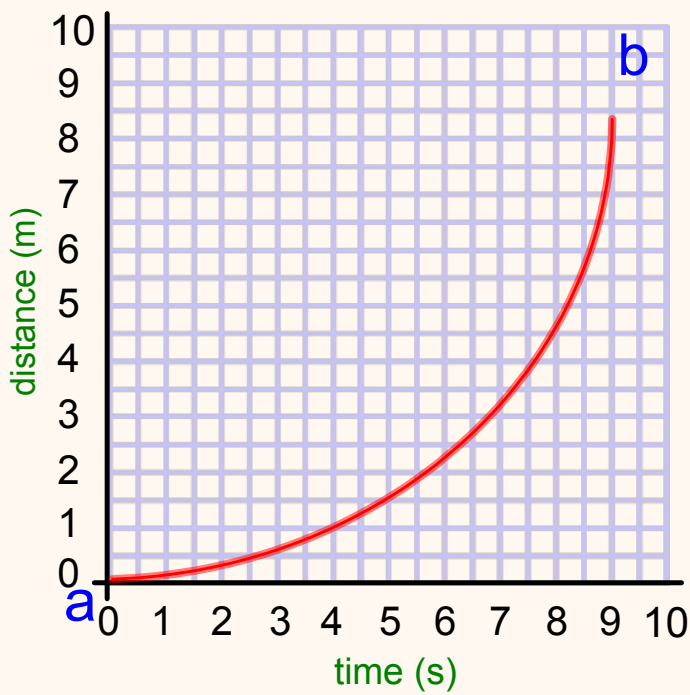
Answer the questions in your exercise books.



1. What is the average speed between **a** and **b**?
2. Which line shows the vehicle is stationary?
3. Which line shows the greatest speed?

Click here
for the
answer

Non- Constant Velocity



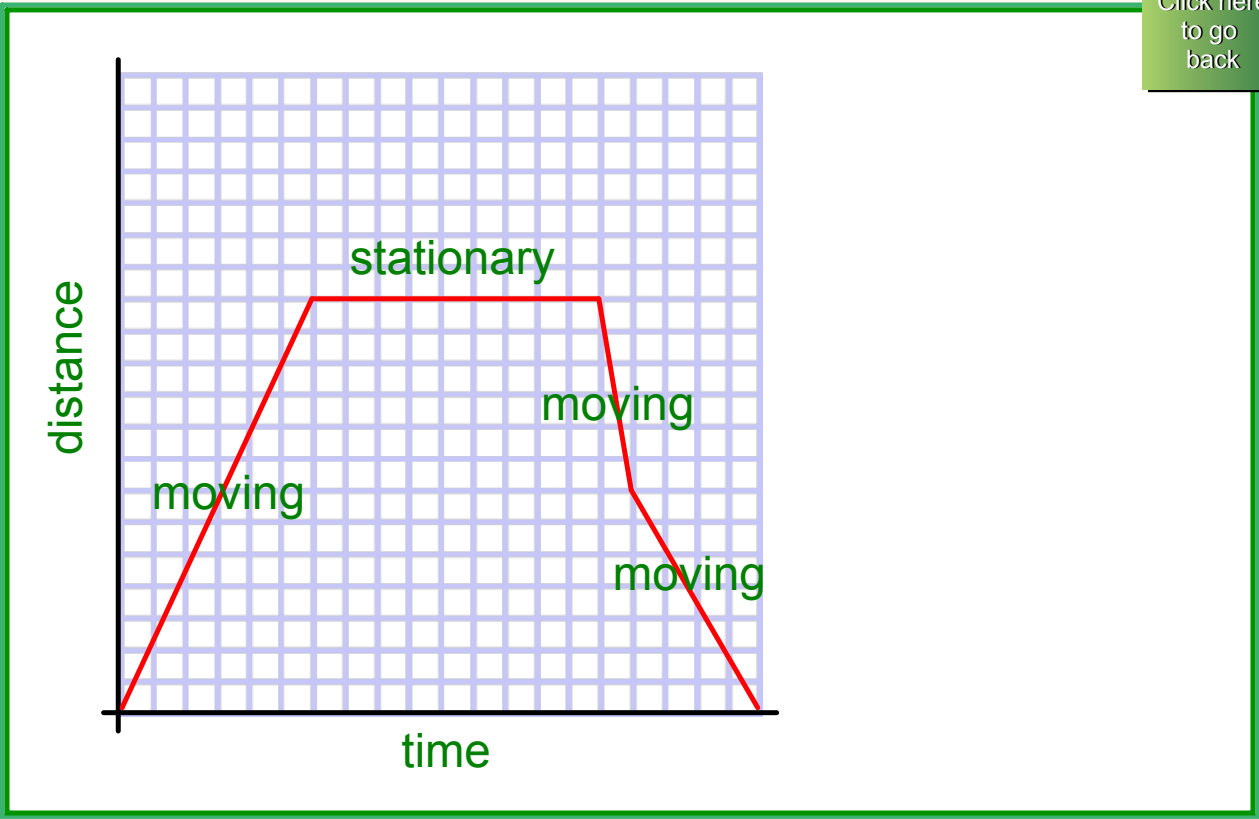
If the velocity of an object changes, it will show as a curve on a distance-time graph.

To find the velocity, work out the slope at any given point.



Label the graph

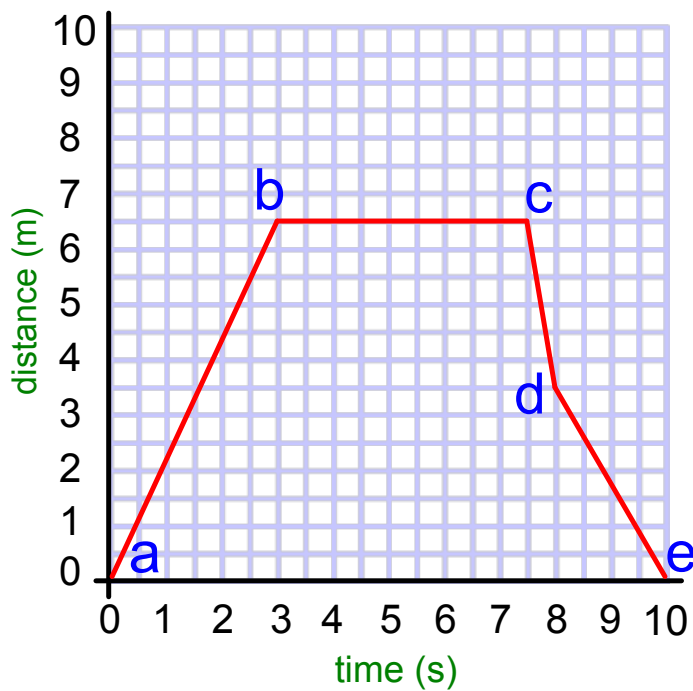
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Answer the questions in your exercise books.



1. What is the average speed between a and b? 2.1m/s
2. Which line shows the vehicle is stationary? bc
3. Which line shows the greatest speed? cd

Click here
to go
back

Attachments

average speed ex 2 answers.notebook

average speed ex 1.notebook