Speeds of Cars

Car	0 Seconds	1 Second	2 Seconds	3 Seconds	4 Seconds	5 Seconds	6 Seconds
A	0 m	7 m	13 m	25 m	40 m	57 m	66 m
B	0 m	5 m	10 m	15 m	20 m	25 m	30 m
C	0 m	11 m	17 m	27 m	36 m	42 m	53 m
D	0 m	9 m	20 m	31 m	43 m	52 m	61 m

Use this chart to create a distance-time graph

Use the chart and graph to calculate the following answers. MUST SHOW WORK!

1. Calculate the average speed of car C.

$S = \dfrac{d}{t}$ $S = \dfrac{53 M}{6S}$ $S = 8.83 m/s$

2. Calculate the average speed of car D.

$S = \dfrac{d}{t}$ $S = \dfrac{61m}{6S}$ $S = 10.17 m/s$

3. What is the average speed for car A for the interval of 3-5 seconds?

$S = \dfrac{d \, final - d \, initial}{t}$ $S = \dfrac{57m - 25M}{2S}$ $S = \dfrac{32m}{2S}$ $S = 16 m/s$

4. What is the average speed for car B for the interval of 2-6 seconds?

$S = \dfrac{d \, final - d \, initial}{t}$ $S = \dfrac{30m - 10m}{4S}$ $S = \dfrac{20m}{4S}$ $S = 5 m/s$

Calculate the distance, time, and speed. MUST SHOW WORK!

1. The fastest car on Earth, a British-made Thrust SSC, would win every NASCAR race in America. If it takes 0.5 hours (30 minutes) to travel 380 miles, what is its speed?

$S = \dfrac{d}{t}$ $S = \dfrac{380 miles}{30 min}$ $S = 12.67 miles/minute$ or $\dfrac{380 mi}{0.5 hr}$

$S = 760 MPh$

2. The pitcher's mound in baseball is 85 m from the plate. It takes 4 seconds for a pitch to reach the plate. How fast is the pitch?

$S = \dfrac{d}{t}$ $S = \dfrac{85m}{4s}$ $S = 21.25$

3. The fastest train in the world moves at 500 km/hr. How far will it go in 3 hours?

$d = t \cdot s$ $d = 3hr \times 500 km/hr$ $d = 1,500 km$

4. Every summer I drive to Michigan. It is 3900 km to get there. If I average 100 km/hr, how much time will I spend driving?

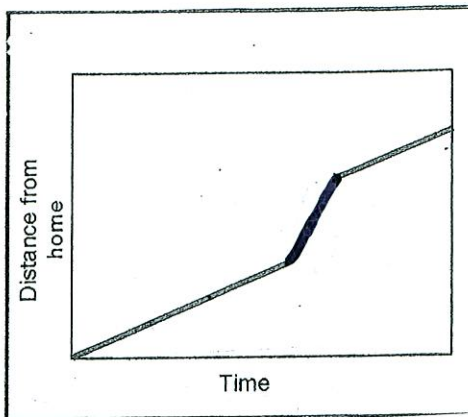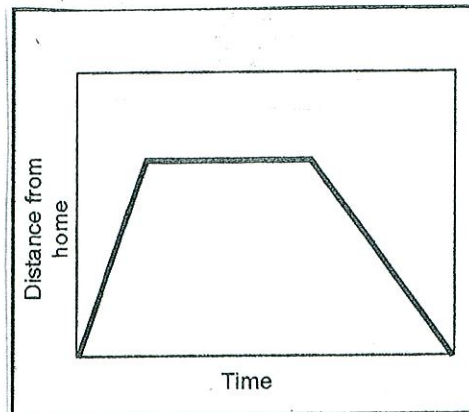$$t = \frac{d}{s} \qquad t = \frac{3900 \text{ km}}{100 \text{ km/hr}} \qquad t = 39 \text{ hrs.}$$

Give a scenario of what is happening in each graph.
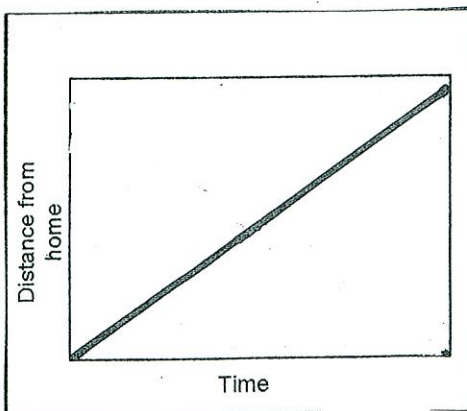
A.

Distance from home (y-axis) vs Time (x-axis)

The car was traveling on the highway at a constant speed. The car sped up to pass the truck, and then went back to its original speed.
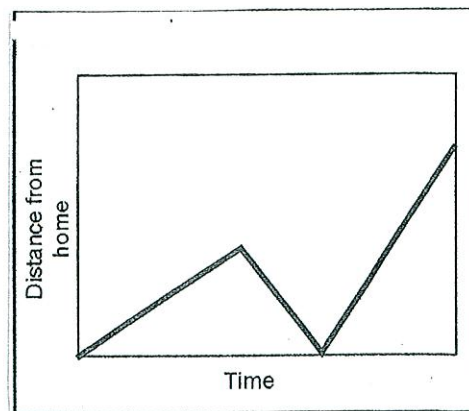
B.

Distance from home (y-axis) vs Time (x-axis)

The person went for a jog, took a rest on the bench, then ran home.

C.

Distance from home (y-axis) vs Time (x-axis)

The car is traveling at a constant speed.

D.

Distance from home (y-axis) vs Time (x-axis)

The person drove to the store and realized they forgot their wallet and drove home. They then realized it was at work and drove back to work to get it.

speeds of cars

Distance (meters)

Time (seconds)