This is a Class 1 exam

Lebanon Evangelical School for Boys and Girls

Lebanon Evangelical School

for Boys and Girls Loueizeh - Baabda

Stage Exam 01

17FEB2025

Do NOT write in this box. Your MARK will be placed here.

Subject :	Physics
Class :	8A, 8B, 8C and 8E
Teacher :	Elyann Daher
Duration :	1 hour

Calculators are not allowed

You are to answer the questions to this exam on : Squared paper

Your name :		*Time taken to complete exam*
Your Class :		
Exam Room :		
How many sheets, including cover sheet :		

- Do not open this paper until the teacher in charge instructs you to do so.
- The most important thing to remember in taking an exam is NEVER PANIC.
- If you are caught cheating in this exam, you will be awarded zero for ALL exams that are taken on this day.

1- This exam is composed of 6 papers. Make sure to answer all the questions.

2- All your answers should be written on a separate paper, anything written on the question sheet will NOT be graded.

Exercise 1: Define the following terms (2pts each).

1- Speed
2- Acceleration
3- Reference point
4- Instantaneous speed

Exercise 2: Say whether the following measurements are distances, times, displacements, speeds, velocities or accelerations (1pt each)

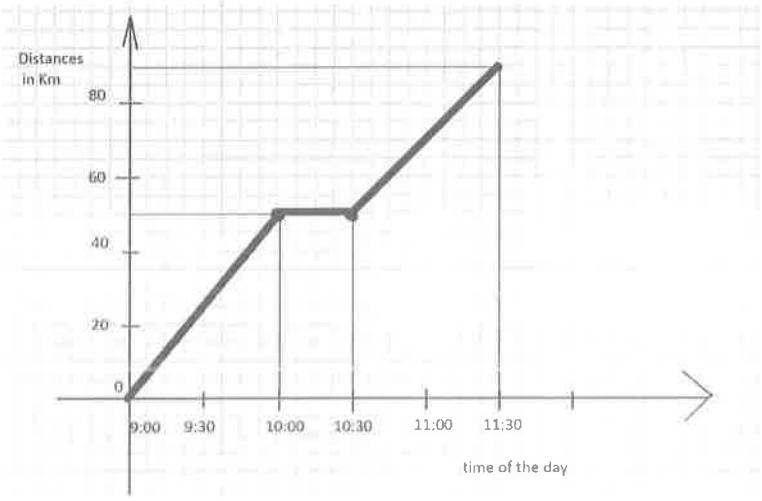
1-100m/s North
2- 300m East
3- 400km/h
4- 20cm
5- 14 km/h South
6- 30 m/s
7- 14 m
8- 1.4 m West
9- 12 cm/s^2
10- 2cm/min

Exercise 3: True or False. Correct the false statements

(Don't write T or F, write the WHOLE word) (1pt each)

1- The distance time graph shows a trip made by class 8 by bus to the zoo. They arrived there at 11.30am.

a-the bus left the school at 9.00am.
b- on their way to the zoo they stopped twice.
c- the speed of the bus between 9.00am and 10.00am is 40km/h.
d- the total distance covered is 100km.



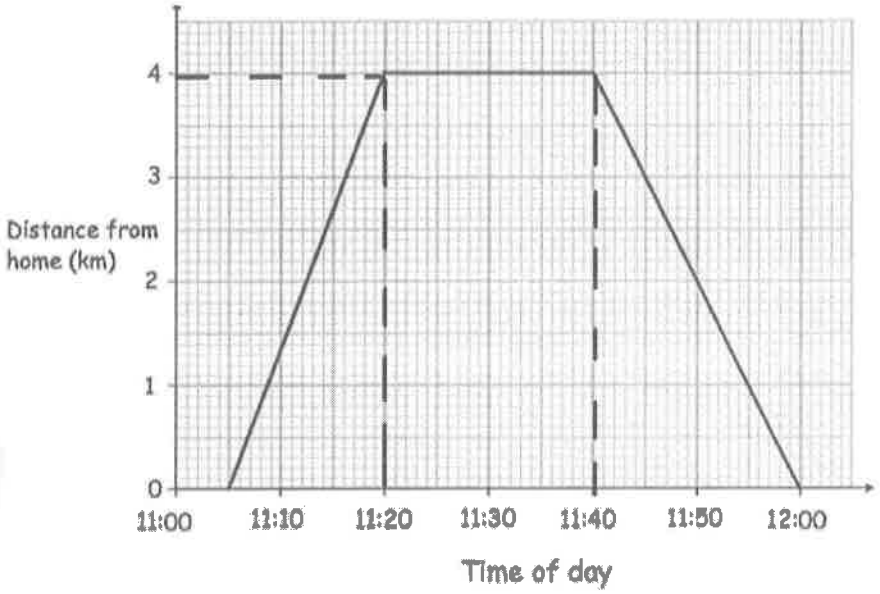
2- Laura goes from her house to the post office and comes back to her house.

a-the post office is 4km away from her house.

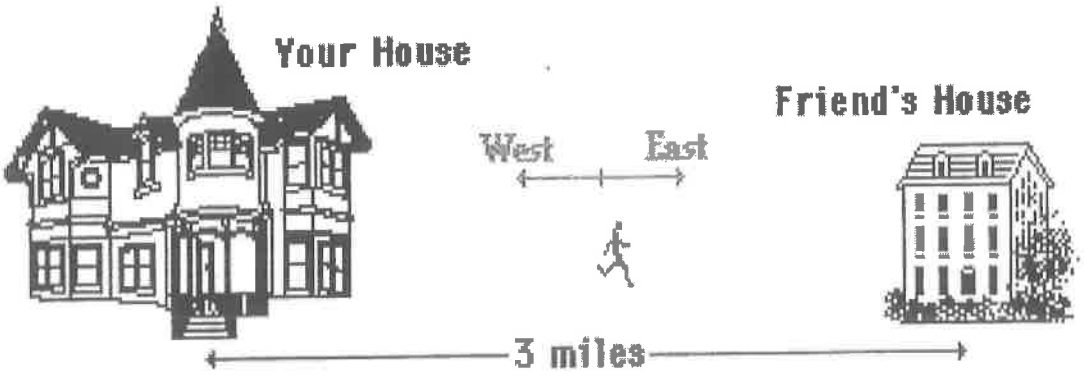
b- the distance covered by Laura is 4km.

c- the total displacement of Laura is 0km.

d- Laura was running between 11.20am and 11.40 am



3- You run from your house to your friend's house, then back to your house.



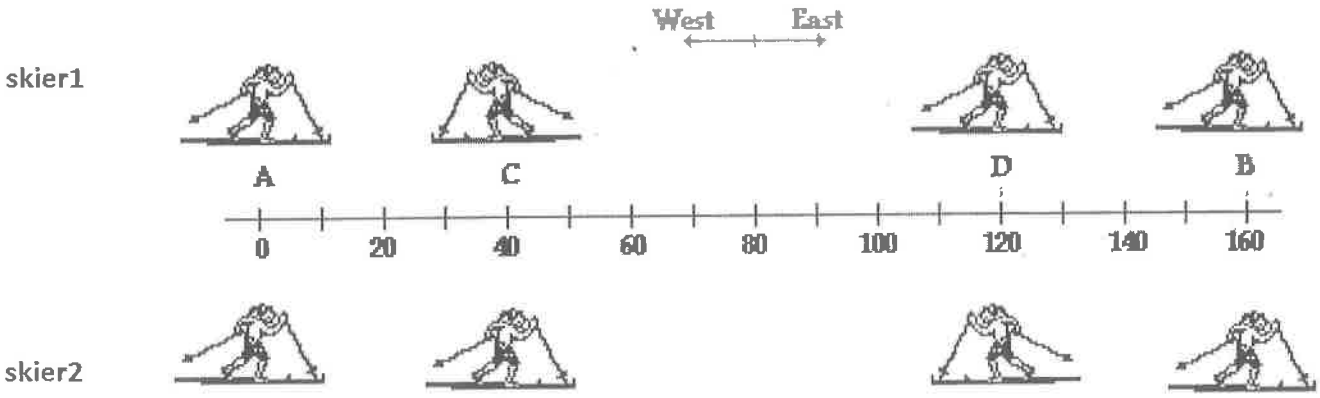
a- The distance you covered is 3miles

b- While finding the distance West and East are important to know

c- Your displacement would change if you were walking

d- Your total displacement is 3 miles East

4- Two cross-country skiers are skiing in the same location. Skier1 goes from location A to B to C to D. Skier2 goes from location A to C to B to D. The distances on the axis are in meters.



a. The total distance traveled by skier1 is 360m.

b. The displacement made by skier1 is 120m East.

c. The total distance traveled by skier2 is 300m.

d. The two skiers have the same displacement at the end.

Exercise IV: Multiple choice questions. No need to show your work(1pt each).

1. Which is the best reason for not using a moving car as a reference point?

a. The car will get out of sight quickly.

b. It is difficult to tell other people which car you are using.

c. It is not accurate to describe any position from the car as it will be changing position.

d. The car has moving parts like rolling tires that can be distracting.

2. Which of the following would make the best reference point for describing the motion of the planets in our solar system.

a. The Sun

b. Planet Earth

c. a space ship in orbit around Earth

d. Earth's Moon

3. Jeff is in a stationary school bus. Which is the best reference point for him to use to determine when the bus starts to move?

a. A friend sitting next to him

b. The sidewalk

c. A friend running outside the bus

d. A bird flying in the sky

4. Jane is sitting in the family car. Her mother is driving her from their house to the library. Jane waves as she passes her friend Mariana. Which of the following is not moving with respect to Jane?

a. Mariana

b. the family car

c. the library

d. Jane's house

5. What is the name of the instrument used to measure instantaneous speed of a vehicle?

a. accelerator

b. speedometer

c. ammeter

d. multimeter

6. What is the distance covered by a car in 5 h if it is moving with a speed of 35 km/h?

a. 7 km

b. 150 km

c. 175 km

d. 1750 km

7. If a person walks with a constant speed of 5m/s for 20s, the distance traveled would be?

a. 4m

b. 6m

c. 90m

d. none of the answers

8. What is the speed of a bird that flies 6.0 m in 2.0 s?

a. 0.33 m/s

b. 3.0 m/s

c. 6.0 m/s

d. 12 m/s

9. What is the average speed of a car that travels a distance of 10 km in 30 min?

a. 10 km/h

b. 20 km/h

c. 30 km/h

d. 40 km/h

10. If a car is traveling at a constant speed of 20km/h, how much time does it need to cover a distance of 60km?

a. 1h

b. 180 min

c. 2h

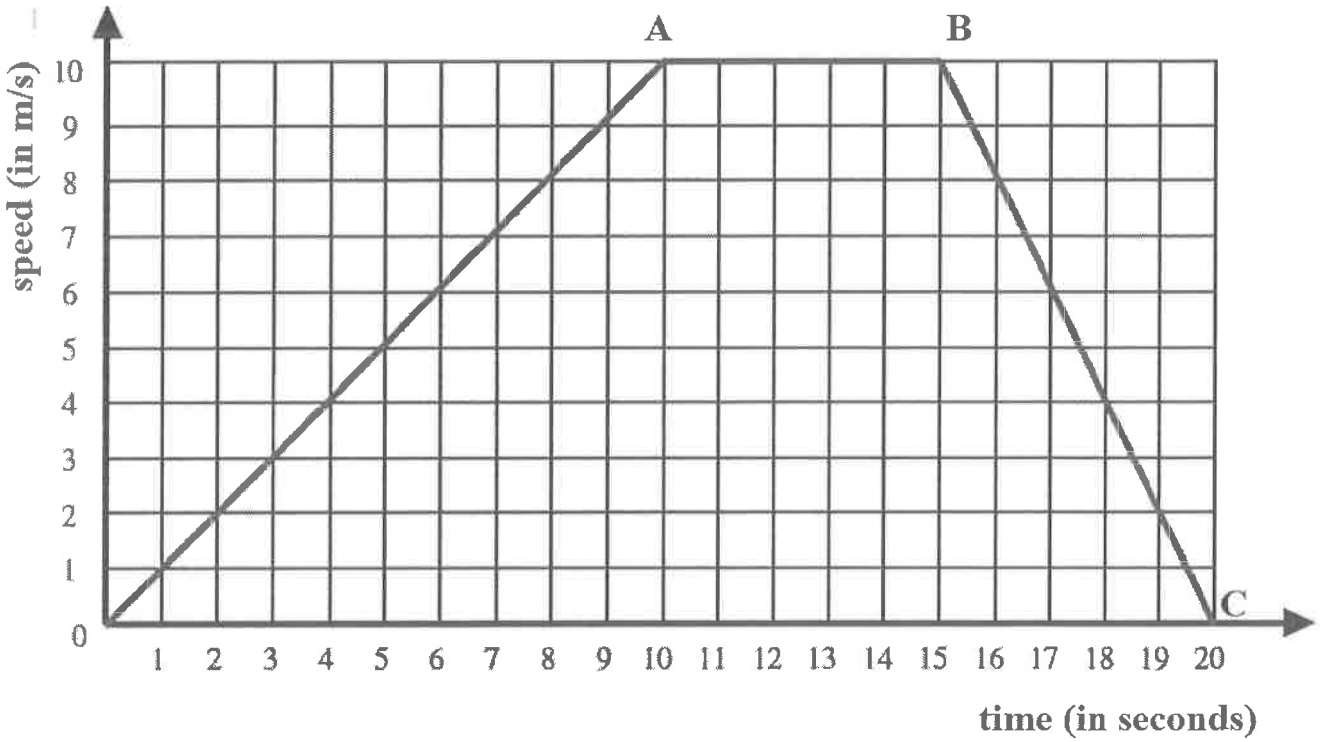
d. 300 min

Exercise V: Given the following speed time graph:

1- Find the acceleration in each phase. (4pts each)

2- Find the distance covered between A and B. (2pts)

3- Describe the motion of the object. (What is happening in each phase?) (3pts)



Exercise VI: Calculation problem (4pts each)

1. A car starting from rest speeds up to 30 m/s in a time of 5 seconds. What was the car's acceleration?

2. A bus is moving at a speed of 20 m/s, when it begins to slow at a constant rate of 5 m/s^2 in order to stop at a bus stop. How much time did it take it to stop?

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Ex1 (2pts each) Total 8 points

1. Speed: How far you go in a period of time
2. Acceleration: The change in velocity over the time taken for this change to occur.
3. Reference point: The starting point you choose to start the description.
4. Instantaneous speed: speed at a specific instant.

Ex2 (1pt each) Total 10 points

1. Velocity
2. Displacement
3. Speed
4. Distance
5. Velocity
6. Speed
7. Distance
8. Displacement
9. Acceleration
10. Speed

Ex3 (1pt each) Total 26 points

1. a. True
   b. False - once
   c. False - 50Km/h
   d. False - 90Km
2. a True
   b. False - 8Km
   c. True
   d. False - She was at rest

3. a. False - 6miles
   b. False - direction doesn't matter
   c. False - only starting and ending pts
   d. False - 0, the starting and ending pts are the same
4. a. True
   b. True
   c. False - 200m
   d. True

Ex4 (1pt each) Total 10 points

1. c
2. a
3. b
4. b
5. b
6. c
7. d
8. b
9. b
10. b

Ex 5 Total 23 pts

1. O → A

(4) $a = \frac{\Delta V}{t} = \frac{10-0}{10} = 1\ m/s^2$

A → B

(4) $a = \frac{\Delta V}{t} = \frac{10-10}{5} = 0\ m/s^2$

(1) It is a horizontal line in a speed time graph, the object is moving with a constant speed

B → C

(4) $a = \frac{\Delta V}{t} = \frac{0-10}{5} = \frac{-10}{5} = -2\ m/s^2$

2. (4) Speed = constant → $d = s \times t = 10 \times 5 = 50\ m$

3. Between O and A the object is speeding up from zero to 10m/s in 10s
Between A and B the object is moving with a constant speed of
(6) 10m/s for 5s.
Between B and C the object is slowing down from 10m/s to 0m/s in 5s.

Ex 6 (4 pts each) Total 8 points

1. Rest → 0 m/s → Vi

$a = \frac{\Delta V}{t} = \frac{V_f - V_i}{t} = \frac{30-0}{5} = 6\ m/s^2$

2. Stop → 0 m/s → Vf. ; slows down → acc negative

$a = \frac{\Delta V}{t} = \frac{V_f - V_i}{t}$

$-5 = \frac{0-20}{t} \rightarrow t = 4\ s$