This is a Class 1 exam

Lebanon Evangelical School
for Boys and Girls
Loueizeh - Baabda

Stage Exam 03

10FEB2026

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		
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.

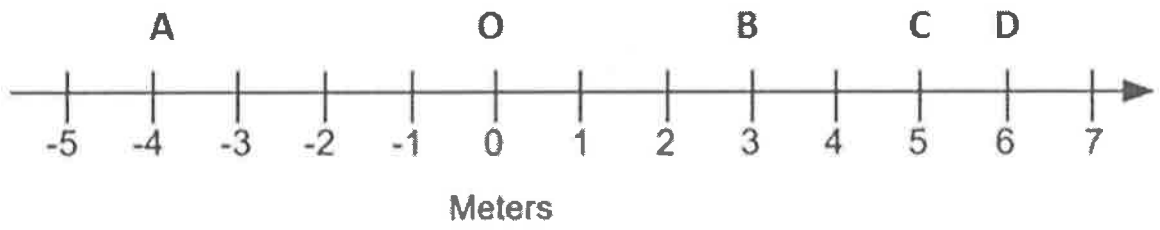
SE03/20252026/Physics/8ABCE

1- This exam is composed of 5 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: Given the following number line, find the distance and displacement in each case.

Show all your work. (6pts each)



1- An object moves from O to D, then to C.

2- An object moves from B to A then to D then to O.

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

1. Instantaneous speed
2. Displacement
3. Direction
4. Acceleration

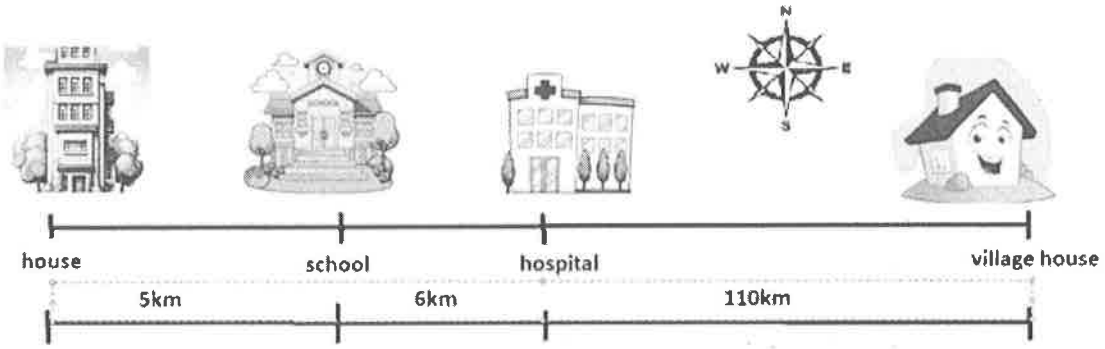
Exercise 3: What term best describes the following definitions (1pt each)

1. Total distance covered over the total time taken to cover this distance
2. Speed with direction
3. Speed that doesn't change
4. The starting point you choose to describe the position or motion

Exercise 4: Read the following statements and say whether they are true or false, if false correct them. (1pt each)

1. Michelle walks 100m toward the west, then runs 20m toward the west. The distance covered is 80m.
2. Sami goes 70m toward the North, then walks South 30m. The displacement is 40m North.
3. An Olympic runner completes a circular lap of 1600m four times. His displacement is 4800m.
4. A shopper walks forward 20m, turns right and walks 5m, turns left and walks in the original direction 10m. The distance covered is 15m.
5. A runner does a 10km in one hour. His speed 1km/h.
6. A ball rolls 8m in 2 sec. The ball's speed is 4m/s.
7. A cyclist travels 4km in 30min. His speed is 8km/h.
8. A runner circles a track of 800m exactly 2 times is not accelerating.

Exercise 5: Given the following picture, read the passages and answer the questions. Don't show your work. (1pt each)



On a beautiful sunny day, Amir and his brother Samir decided to go on a trip. They left their house and drove to the village house. This trip took 2h.

1- What is their displacement?

2- What is their speed?

3- Were they in motion with relatively to each other?

While they were there, Samir felt very ill, and asked his brother to take him to a hospital they usually go to. Give the location of Amir and Samir if the reference point is

4- The village house.

5- The house (apartment).

6- The school.

Samir stayed at the hospital that night. The next morning, Amir had to go to the house(apartment) to bring some clothes for Samir and come back to the hospital, then later that day, he had to go from the hospital to the school to pick up Samir's kids and take them house (apartment). Finally, he came back to the hospital to stay with his brother.

7- What is the distance covered by Amir the next day?

8- What is his displacement?

Exercise 6: Choose the letter of the correct answer. No need to show your work (1pt each).

1- Acceleration can be calculated from

a- Distance-time graph b- Speed-time graph c- Any graph

2- The distance covered by an object

a- Can be negative b- needs a direction c- is always positive

3- A horizontal line in a distance-time graph represents

a- An object at rest b- an object with a constant speed c- an object with changing speed

4- To describe the position of an object you need

a- A distance b- a direction c- Both answers are correct

5- The distance and the displacement

a- Are always equal b- are always different c- can be equal

6- You are accelerating if

a- You change your speed b- You change your direction c- both answers are correct

7- A horizontal line in a speed-time graph represents

a- An object at rest b- an object with a constant speed c- could be both

8- The best reference point to choose is

b- A moving train b- A swimming whale c- A building

Exercise 7: Calculation problem- Show all the steps (4pts each)

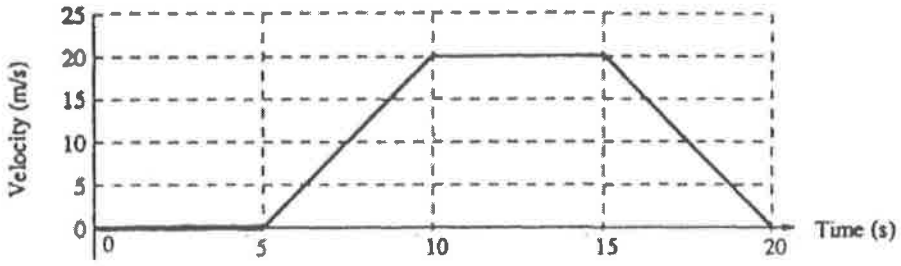
1- What is the distance covered if an object moves with a speed of 30m/s for 15s?

2- A car accelerates at a rate of 60km/h^2 and speeds up from 20km/h to 140km/h.

What is the time taken for this change in speed to happen?

Exercise 8: Graphs

Given the following graph, answer the questions and show all your work. (4pts each)



1- Calculate the acceleration between t=0s and t=5s.

2- Calculate the acceleration between t=5s and t=10s.

3- Calculate the acceleration between t=10s and t=15s.

4- Calculate the acceleration between t=15s and t=20s.

5- What is the distance covered between the time t=10s and t=15s?

6- What is happening in each phase?

SE03/2025 2026/ Physics/ 8ABC

Total of 85
passing 51

Exercise 1: 6 pts each → Total of 12 pts

1. O → D → C
   distance = 6 + 1 = 7 meters
   displacement = $\Delta x = x_f - x_i = 5 - 0 = 5$; 5 m right

2. B → A → D → O
   distance = 7 + 10 + 6 = 23 meters
   displacement = $\Delta x = x_f - x_i = 0 - 3 = -3$; 3 m left

Exercise 2: 2pts each → Total of 8 pts

1. Instantaneous speed: Speed at a specific instant
2. Displacement: The shortest path between initial and final position
3. Direction: How the object is moving
4. Acceleration: The change in velocity over the time taken for this change to occur.

Exercise 3: 1pt each → Total of 4 pts

1. average speed (speed is also accepted)
2. Velocity
3. Constant speed
4. Reference point

Exercise 4: 1 pt each → Total of 13 pts

1. False. 120m
2. True
3. False 0m
4. False 354 m
5. False 10Km/h
6. True
7. True
8. False (circle → change direction) Is accelerating

Exercise 5: 1pt each → Total of 8pts

1. 121 Km East (1)
2. s = 60.5 Km/h (1) (d/t = 121 ÷ 2)
3. No (1)
4. 110 Km west (1)
5. 11 Km East (1)
6. 6Km East (1)
7. 11 + 11 + 6 + 5 + 11 = 44km (1)
8. 0Km (1)

Exercise 6: 1pt each → Total of 8pts

1. b (1)	3. a (1)	5. c (1)	7. c (1)
2. c (1)	4. c (1)	6. c (1)	8. c (1)

Exercise 7: 4pts each → Total of 8pts

1. $d = s \times t = 30 \times 15 = 450\,m$ (1) (1) (1) (1)

2. $a = \frac{\Delta v}{t} = \frac{v_f - v_i}{t}$ (1)

$$60 = \frac{140 - 20}{t} \longrightarrow t = \frac{120}{60} = 2h$$ (1) (1)

Exercise 8: 4pts each → Total of 24pts

1. $a = \frac{\Delta v}{t} = \frac{v_f - v_i}{t} = \frac{0-0}{5} = 0\,m/s^2$ (1) (1) (1) the object is at rest

2. $a = \frac{\Delta v}{t} = \frac{v_f - v_i}{t} = \frac{20-0}{5} = \frac{20}{5} = 4\,m/s^2$ (1) (1) (1) (1)

3. $a = \frac{\Delta v}{t} = \frac{v_f - v_i}{t} = \frac{20-20}{5} = \frac{0}{5} = 0\,m/s^2$ (1) (1) (1) (1) the object is moving with a constant speed

4. $a = \frac{\Delta v}{t} = \frac{v_f - v_i}{t} = \frac{0-20}{5} = -\frac{20}{5} = -4\,m/s^2$ (1) (1) (1) (1)

5. $d = s \times t = 20 \times 5 = 100m$ (1) (1) (1) (1)

6. Between 0 and 5s, the object is at rest for 5s. (1)
Between 5 and 10s, the object speeds up from 0m/s to 20m/s in 5s (1)
Between 10 and 15s, the object is moving with a constant speed of 20m/s for 5s (1)
Between 15 and 20s, the object is slowing down from 20m/s to 0m/s in 5s. (1)