This is a Class 1 exam

Lebanon Evangelical School
for Boys and Girls — Loueizeh - Baabda

Stage Exam 03
FEB2023

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

Please write all the answers on a separate grid paper any answer written on the question paper will not be marked
No calculators are 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.

SE03/20222023/Physics/8ABCE

1) All calculators are not allowed

2) This exam is composed of 3 papers

3) All the answers should be written on a separate grid paper, anything written on the question sheet will NOT be graded

A- Choose the term that correctly completes the sentence(1pt each)

1- A golf ball's acceleration is $+3m/s^2$. The ball is (speeding up, slowing down).
2- An object's (speed, displacement) represents its distance and direction from its starting point.
3- A student walks 10m in 2s. His average speed is (20m/s, 5m/s).
4- During positive acceleration, an object's final speed is(greater than, less than) its initial speed.
5- A plane moving at a rate of 400km/h west has a different(velocity, speed) than a plane moving 400km/h northwest.
6- To calculate the acceleration of an object, you divide the change in velocity by (time taken, distance covered).

B- Fill in the blanks with the appropriate term. (1pt each)

When an object that is already in motion speeds up, it is ____(a)____. The speed increases, therefore, each second, the object moves at a ____(b)____ speed and travels a ____(c)____ distance in the same time.
____(d)____ occurs when we slow down as well as when we speed up.
____(e)____ is not always along a straight line, if the ____(f)____ is at an angle to the direction of the motion, then the object will turn.

C-Explain the relationship between each pair of words (2pts each)

a- speed, velocity
b- velocity, acceleration
c-average speed, instantaneous speed

D-Which of the following is an example of acceleration and why.(2pt each)

1. A leaf falling at a constant speed.
2. A skater spinning.
3. A dog running faster and faster.
4. A car slowing down.

E- Below are the values of gravity for a few of the planets in our solar system. Use these values to answer the following questions. (3pts each)

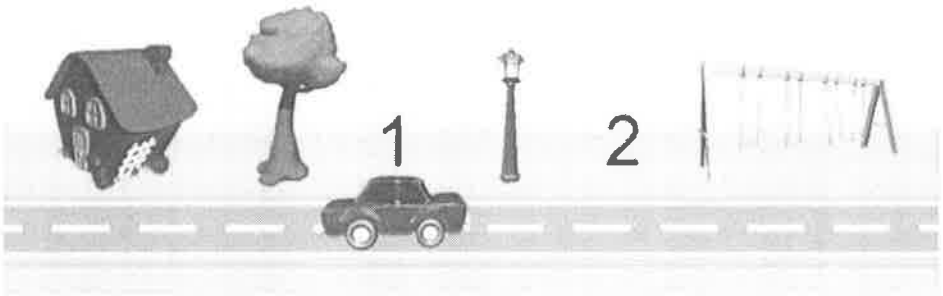
Earth: 9.8 m/s^2
Venus: 8.9 N/kg
Jupiter: 24.9 N/kg
Mercury: 3.7 N/kg
Neptune: 11.7 N/kg

a. If the mass of a rock is 10 kg, what is its weight on Jupiter?
b. If the mass of an elephant is 5,678 kg on Earth, what is its mass on Venus?
c. If a book has a mass of 100 kg, what is its weight on Earth?
d. If a dog has a mass of 10 kg, what is its weight on Neptune?
e. If a metal block has a mass of 20kg, what is its weight on Mercury?

F- Complete the following table. Do not copy the table, simply write the letter with the required information (1pt each)

Terms	Definition	Do they need direction?
Distance	a	b
Displacement	c	d
Speed	e	f
velocity	g	h
acceleration	i	j

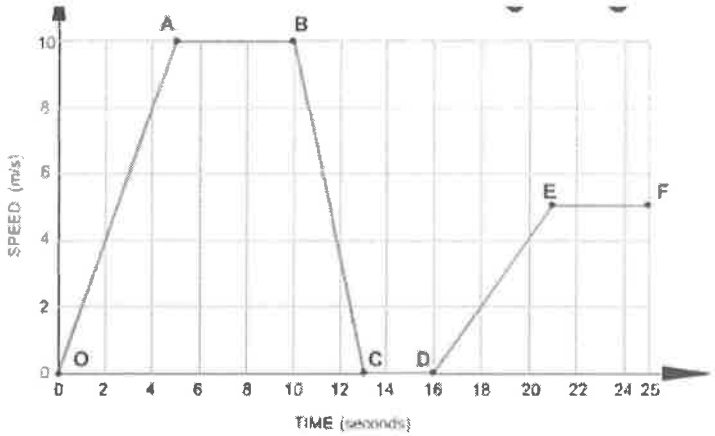
G- Observe the following figure and answer the following questions.



The car is moving to the left. How would the car be moving if you are standing at the following reference points
a) the house
b) inside the car
c) on the swing-set

H – Graph

Given the following graph



a. Calculate the acceleration between 0 and 5s.
b. Calculate the acceleration between 10 and 13s.
c. Explain what is happening in each phase.

I -Draw a square on your answer sheet and construct the following forces

Force F_1 Vertical, upward, 3N

Force F_2 Horizontal, to the right, 1N

Force F_3 Horizontal, to the left, 2N

Force F_4, Inclined, bottom right 3N

SE 03 / 2022 2023 / Physics / BABCE

A. /6
1. speeding up
2. displacement
3. 5 m/s
4. greater than
5. velocity
6. time taken

1 pt each

B. /6
a. accelerating
b. greater
c. greater
d. acceleration
e. motion
f. movement

1 pt each

C. /6
a. velocity is speed with direction
b. acceleration is the rate of change in velocity over a period of time
c. average speed is the speed of the whole trip while instantaneous speed is the speed at a specific moment

2 pts each

D. /6
1. No because the direction and speed are not changing if you mention a change in direction then yes ✓
2. Yes because the spinning motion requires a change in direction (2)
3. Yes because faster and faster means an increase in speed (2)
4. Yes because any change in speed means the object is accelerating. (2)

E. /15
a. $m = 10kg$
$W_J = m \times g_J = 10 \times 24.9 = 249N$
b. Mass doesn't change with different Locations it will remain 5678kg
c. $m = 100kg$
$W_E = m \times g_E = 100 \times 9.8 = 980N$
d. $m = 10kg$
$W_N = m \times g_N = 10 \times 11.7 = 117N$
e. $m = 20kg$
$W_M = m \times g_M = 20 \times 3.7 = 74N$

3 pts each

F. /10
a. Total length between two points or positions
b. No
c. Difference between the last position and the first position
d. Yes
e. How fast you go
f. No
g. Speed with direction
h. Yes
i. rate of change in velocity
j. Yes

1 pt each

G. /3
a. coming towards me
b. not moving
c. Going Away from me

1 pt each

H. a. Between 0 and 5s

/14 speed $0 \rightarrow 10$ m/s [10 m/s]

time $0 \rightarrow 5$ [5 s]

$a = \frac{\Delta v}{t} = \frac{10}{5} = 2\ m/s^2$ 4pts

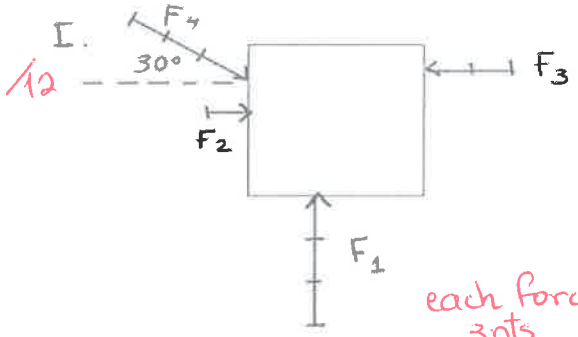
b. Between 10 and 13s

speed $10 \rightarrow 0$ [-10 m/s]

time $10 \rightarrow 13$ [3 s] 4pts

$a = \frac{\Delta v}{t} = \frac{-10}{3} = -3.33\ m/s^2$

I. /12



each force 3pts

C. /6

Between 0 and A
The object is speeding up
Between A and B
The object is moving with a constant speed
Between B and C
The object is slowing down
Between C and D
The object is at rest
Between D and E
The object is speeding up
Between E and F
The object is moving with a constant speed

each phase 1pt