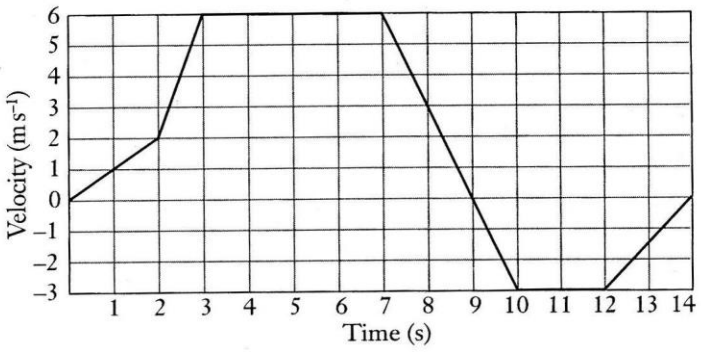
Revision Sheet
Term 2 – Final Exam
Grade 9- Physics

Material for final: chapter 2 , motion in one dimension , sections 1 +2+3 (displacement – acceleration – falling objects)

Q1. The graph shows a velocity-time graph for a soccer player moving in a straight line during part of a match.



A. Calculate the acceleration between t = 0 s and t = 2.0 s.

B. Calculate the instantaneous acceleration at t = 8.0 s

C. Calculate the acceleration between t = 4.0 s and t = 7.0 s.

D. Calculate the instantaneous acceleration at t = 9.0 s.

E. Determine the distance the player travels between t = 0 s and t = 6.0 s.

F. What is the total distance covered by the player between t = 0 s and t = 14.0 s?

G. What is the displacement between t = 0 s and t = 14.0 s?

Q2 : Answer the following questions :

1- What is the meaning of motion ?

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2- What is the difference between reference point and reference frame ?

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3- How many dimensions do you know? How can you explain the motion in one dimension ?

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4- What is the difference between scalar and vector quantities?

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5- What are the differences between speed and velocity ?

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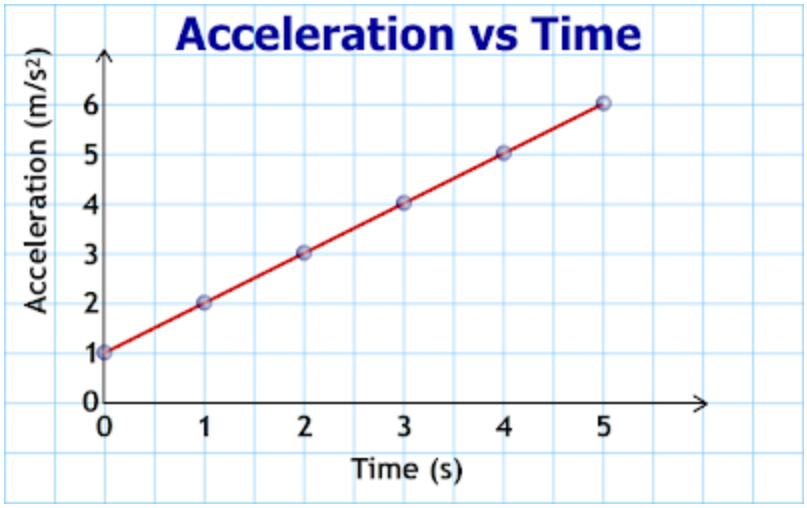
Q3 : Look at the graphs bellow, then describe each one of them in the space beside it.



A)_____

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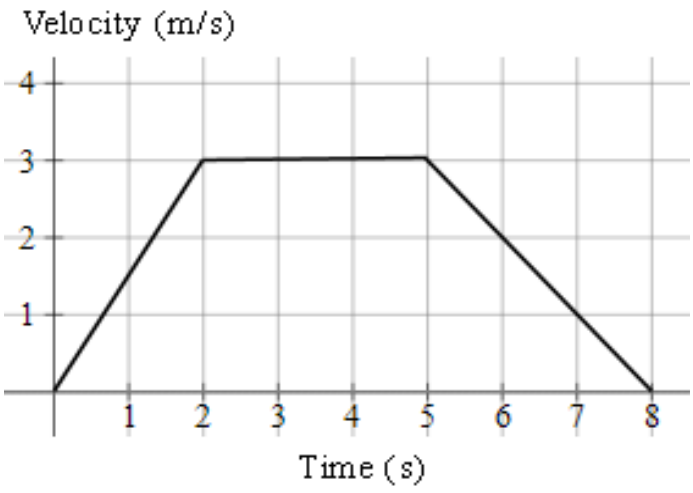

B)_____

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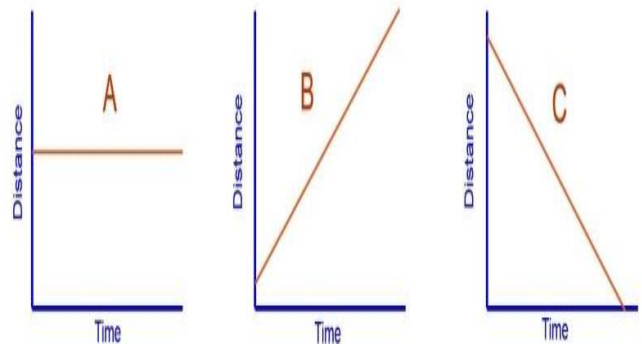

C)_____

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Q4: Complete the following table about the velocity and acceleration :

Velocity	Acceleration	Description
+	+	
-	-	
+	-	
-	+	
+	**0**	
-	**0**	
0	+	
0	-	
0	**0**	

Q5 : Answer the following equations :

1- Maith's car accelerates at an average rate of 2.6 m/s2. Calculate how long it takes her car to speed up from 24.6 m/s to 26.8 m/s.

2- A car is driving down the road at 15.0 meter per second, when the driver notices a stop sign up ahead. The driver applies the brakes, and comes to a stop in 5.0 seconds. What was the average acceleration of the car when the brakes were applied?

3. A robot probe drops a camera off the rim of a 239 m high cliff on Mars, where the free-fall acceleration is −3.7 m/s2.
   a. Find the velocity with which the camera hits the ground.
   b. Find the time required for it to hit the ground.

4. A flowerpot falls from a windowsill 25.0 m above the sidewalk.
   a. How fast is the flowerpot moving when it strikes the ground?
   b. How much time does a passerby on the sidewalk below have to move out of the way before the flowerpot hits the ground?

5. A volleyball is hit upward with an initial velocity of 6.0 m/s. Calculate the displacement of the volleyball when its final velocity is 1.1 m/s upward