Physics

Second Secondary Grade

Home Work

20
26

Week 3

Name: ....

Class: ....

School: ....

إعــــداد

مجدي فتحي

مراجعة

محمد عنتر - عمرو مالي

مكتب مستشار العلوم

عبدالله مصطفى – سعيد محمد

إشراف

د/ عزيزة رجب خليفة
مستشار العلــوم

إشراف عام

د/ هالــــة عبــــد السلام
رئيس الإدارة المركزية للتعليم العام

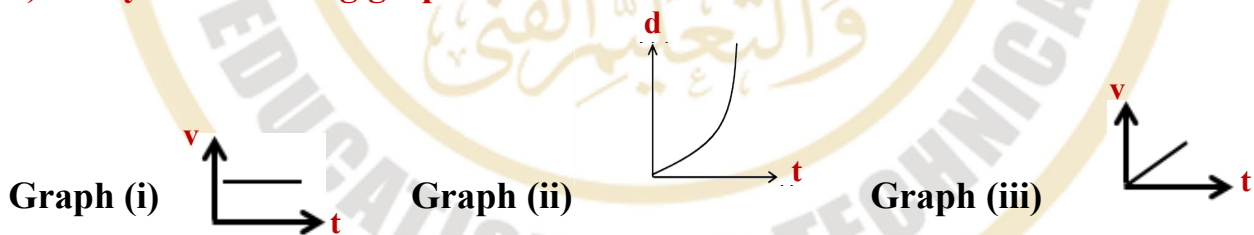**First: Choose the correct answer:**

1) An objects displaces 30 m east during time of 2 s then, displaces 40 m north during 3 s. So, the magnitude of the average velocity during the whole 5 s equals ………..

a) 6 m/s

b) 8 m/s

c) 10 m/s

d) 14 m/s

2) Which of the following graphs represents a static object?

3) Study the following graphs

Which graphs represent a moving object with non-uniform velocity?

    a) Graphs (i) and (ii)
    b) Graphs (ii) and (iii)
    c) Graphs (i) and (iii)
    d) Graphs (i), (ii) and (iii)

4) An object moves at a straight line for a distance (d) and then returns back to its starting point on the same line. The total distance travelled by the body is

a. Zero

b. ½ d

c. 2d

d. 4d

5) The figures show the motion diagrams of two moving persons
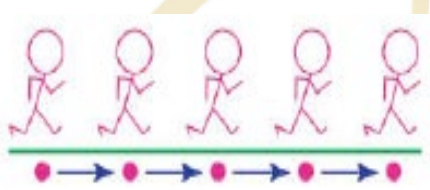

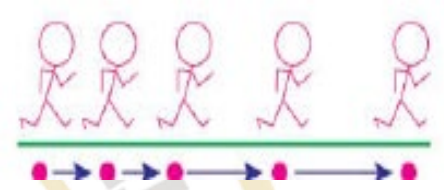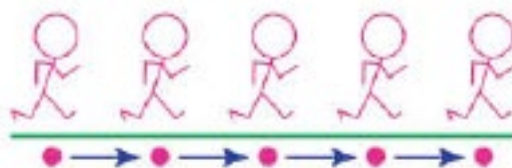Figure (1)   Figure (2)

Which of the following correctly identify the type of the velocity of each person in each figure?

|	Figure (1)	Figure (2)
A	Uniform velocity	Uniform velocity
B	Uniform velocity	Non-uniform velocity
C	Non-uniform velocity	Uniform velocity
D	Non-uniform velocity	Non-uniform velocity

6) The figure shows the motion diagram of a moving person

Which of the following graphs correctly represents the velocity of the person?

a)

b)

c)

d)
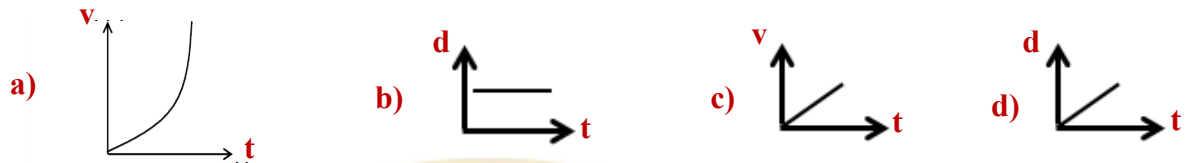
7) A person moves at a straight line along path A to B to C and then to D during 10 minutes
as shown in the figure.

Position (meter)
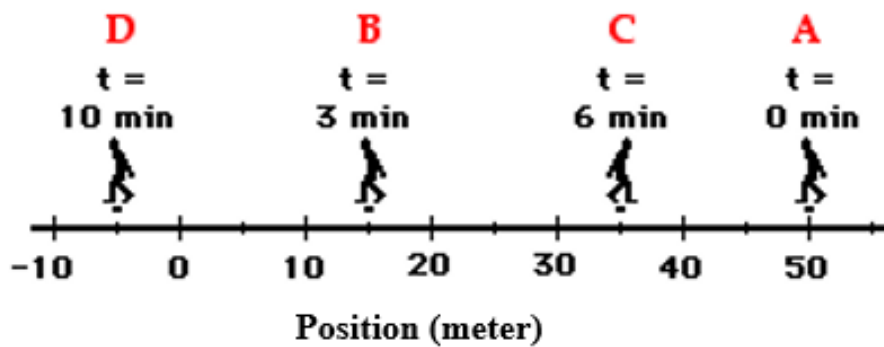
	The average velocity of the person during the interval 0 min to 3 min	The average speed of the person during the whole trip	The magnitude of the average velocity of the person during the whole trip
A	٠,١٩٤ m/s	٠,١٥٨ m/s	0.092 m/s
B	11.67 m/s	9.5 m/s	5.5 m/s
C	٠,١٩٤ m/min	٠,١٥٨ m/min	0.092 m/min
D	11.67 cm/s	9.5 cm/s	5.5 cm/s

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8) An object moves at a straight line along path ABCD, covering distance
AB in half a second. Then:
(First) The average velocity of the object from A to B is equal to...
a) 2 cm/s
b) 4 cm/s
c) 6 cm/s
d) 8 cm/s
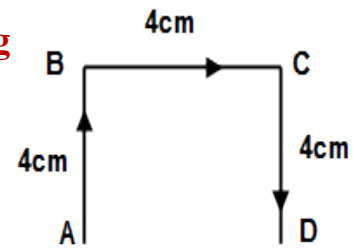
(Second) If you know that the average velocity of the object along the rest of the path from
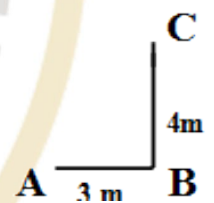B to D is twice its average velocity from A to B, then the average velocity of the object during
the entire journey is ....
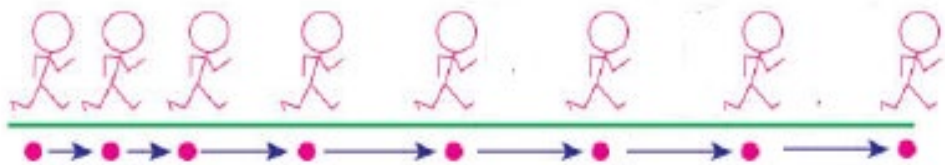a) 4 cm/s
b) 4.69 cm/s
c) 9.66 cm/s
d) 12 cm/s

9) An object moves at a straight line along the path ABC during two seconds.
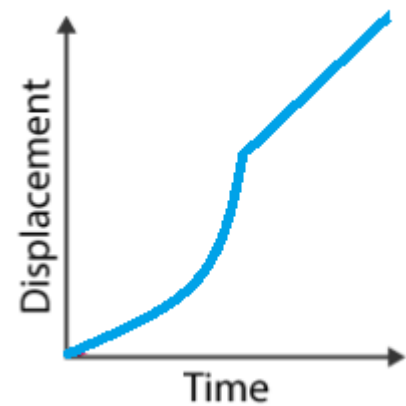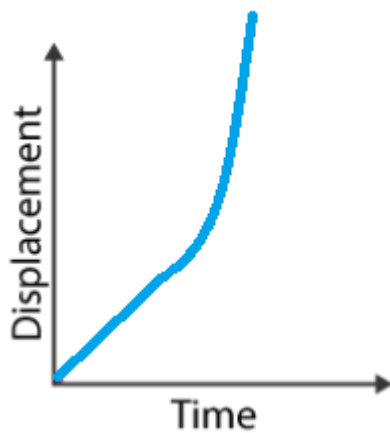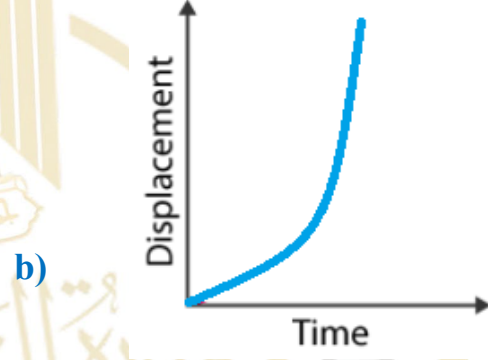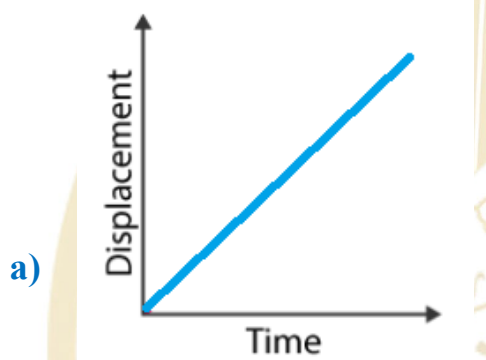The average velocity of the object is equal to ………………..
a) 1 m/s
b) 2.5 m/s
c) 3.5 m/s
d) 6 m/s

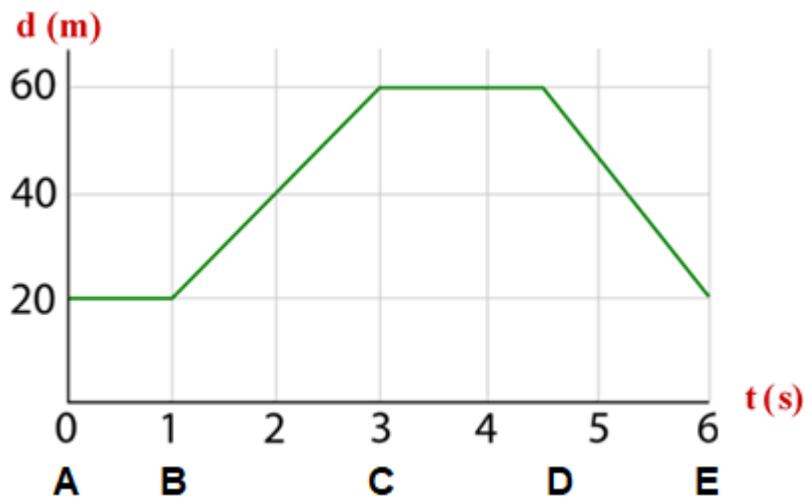**10) The figure shows the motion diagram of a moving person**

Which of the following graphs correctly represents the motion of the person?

a)

b)

11) The figure shows [displacement (d) - time (t)] graph for an object.

First: Which intervals of time the object at rest?
a) AB and BC
b) BC and CD
c) DE and BC
d) AB and CD

Second: Which interval of time the velocity of the object is positive?
a) AB
b) BC
c) CD
d) DE

Third: Which interval of time the velocity of the object is negative?
a) AB
b) BC
c) CD
d) DE

Forth: The average velocity of the object during the whole 6 seconds is equal to…….
a) 0 m/s
b) 3.3 m/s
c) 10 m/s
d) 13.3 m/s

1) Compare between:

Point of comparison	velocity	Speed
Define		
Its type		
Its mathematical relation		
Its measuring unit		

2) Compare between:

| Point of comparison	The instantaneous velocity	The average velocity
Define		
How to be calculated graphically from displacement-time graph		

3) What is meant by:

A) The average velocity of a train is 15 m/s

B) The instantaneous velocity of an object is 3 m/s

## 4) When does the average velocity of a moving object vanish?

5) An object moves along the grid through the points A, B, C, D, E, and F as shown below.
Find the average velocity in (m/s) if the total time of the trip is 4 minutes

0.5 km
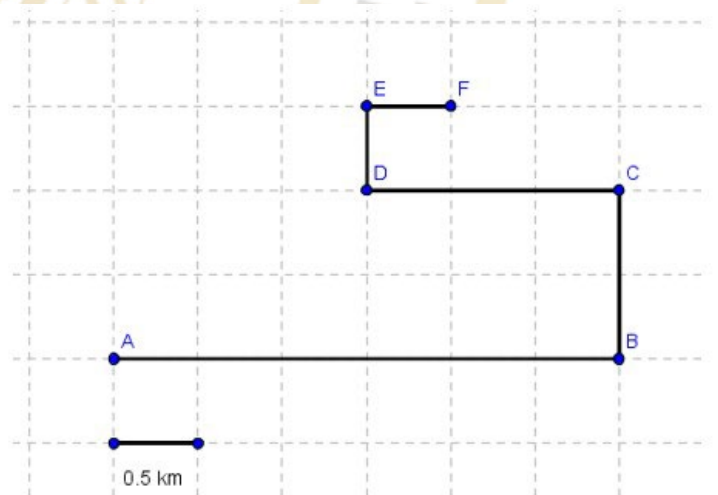
6) A train moves on a straight track in one direction, covering half the distance at a velocity of 60 km/h then, the rest of the distance at a velocity of 120 km/h. Calculate the average velocity of the train during its entire journey.

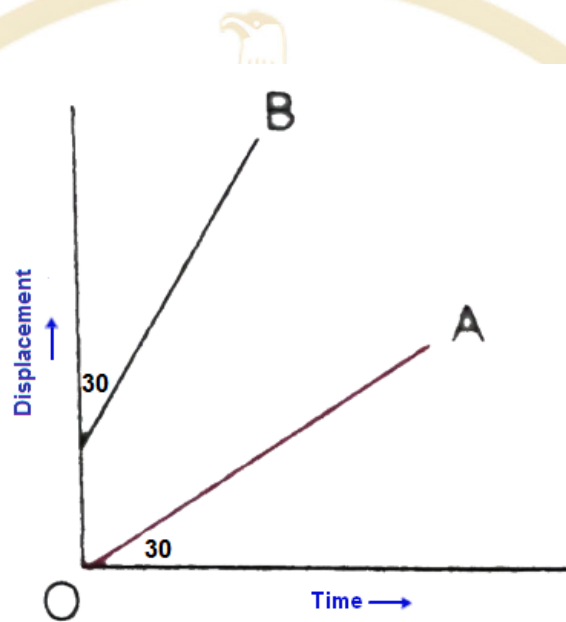**7) The figure shows (displacement-time) graph for a moving object**
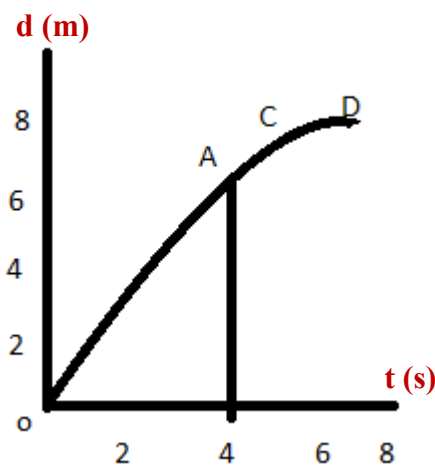
First: Rank the velocities at (A), (C) and (D) from the least to the greatest

Second: Explain your answer

8) The figure shows (displacement-time) graph for two moving objects (A) and (B).

Find the ratio between: $\dfrac{The\ velocity\ of\ object\ (A)}{The\ velocity\ of\ object\ (B)}$

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Weekly Assessment

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مجدي فتحي

مراجعة

محمد عنتر -عمرو مالي

مكتب مستشار العلوم

عبدالله مصطفى – سعيد محمد

إشراف

د/ عزيزة رجب خليفة
مستشار العلـــوم

إشراف عام

د/ هالـــة عبـــد السلام
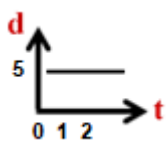رئيس الإدارة المركزية للتعليم العام

First: Choose the correct answer:

1) An objects displaces 60 m east during time of 4 s then, displaces 80 m west during 6 s. So, the average velocity during the whole 10 s is ………..

    a) 2 m/s , east

    b) 2 m/s , west

    c) 14 m/s , east

    d) 14 m/s , west

2) Which of the following graphs represents a moving object with a uniform velocity?
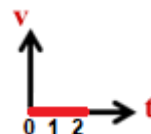

3) Study the following graphs

Graph (i)   Graph (ii)   Graph (iii)

Which graphs represent a static object?

    a) Graphs (i) and (ii)
    b) Graphs (ii) and (iii)
    c) Graphs (i) and (iii)
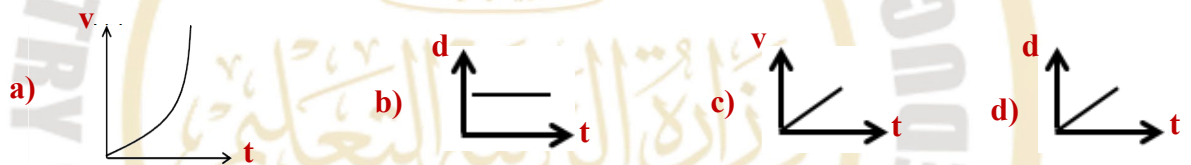   d) Graphs (i), (ii) and (iii)

4) An object moves at a straight line for a distance (d) and then returns back to its starting point on the same line. The total displacement travelled by the body is
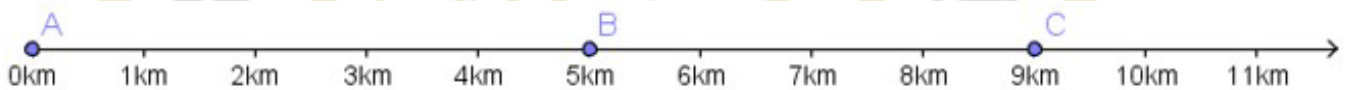
a. Zero 　　　　b. ½ d

c. 2d 　　　　　 d. 4d

5) The figure shows the motion diagram of a moving person
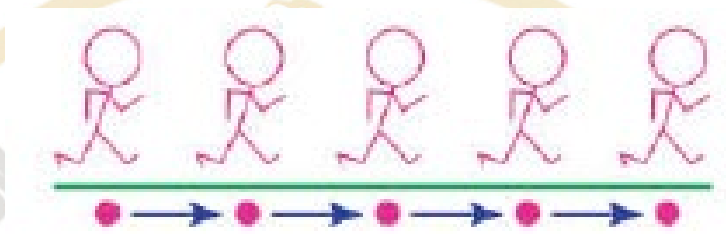
Which of the following graphs correctly represents the velocity of the person?

6) An object moves in a straight line along path A to C and then to B during two hours, as shown in the figure.


|	The covered distance by the object	The magnitude of the displacement of the object	The average speed of the object	The magnitude of the average velocity of the object
A	9 km	9 km	4.5 km/h	4.5 km/h
B	11 km	11 km	5.5 km/h	5.5 km/h
C	14 km	9 km	7 km/h	4.5 km/h
D	14 km	5 km	7 km/h	2.5 km/h

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7) An object moves at a straight line along the path ABCDA during two seconds.
The average velocity of the object is equal to ………………..
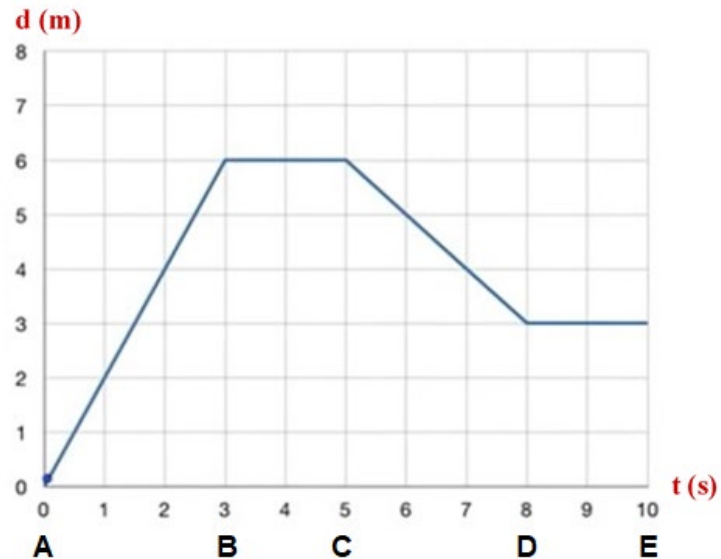a) 0 cm/s
b) 2 cm/s
c) 4 cm/s
d) 6 cm/s
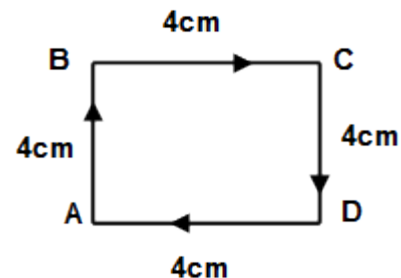
8) The figure shows the motion diagram of a moving person
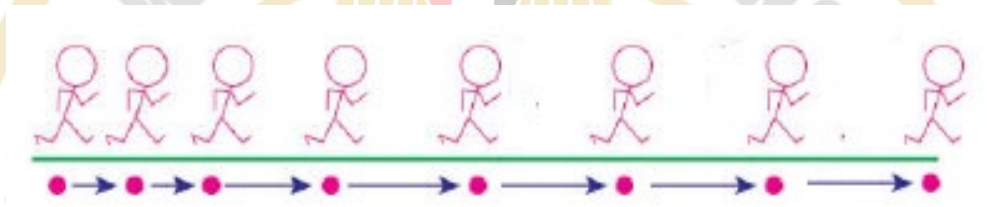
Which of the following correctly describes the velocity of the person?

a) It is uniform during the entire journey.
b) It is non-uniform during the entire journey.
c) Uniform the non-uniform
d) Non-uniform then uniform

9) The figure shows [displacement (d) - time (t)] graph for an object.

First: Which intervals of time the object at rest?
a) AB and BC
b) BC and CD
c) DE and BC
d) AB and CD

Second: Which interval of time the velocity of the object is positive?
a) AB
b) BC
c) CD
d) DE

Third: Which interval of time the velocity of the object is negative?
a) AB
b) BC
c) CD
d) DE

Forth: The average velocity of the object during the whole 6 seconds is equal to…….
a) 0.3 m/s
b) 0.6 m/s
c) 0.9 m/s
d) 1.2 m/s

1) Compare between:

Point of comparison	Uniform velocity	Variable (Non uniform) velocity
Define		
Motion diagram		
Displacement-Time graph		

2) Compare between:

| Point of comparison	Translational motion	Periodic motion
Define		
Examples		

3) What is meant by:

A) The speed of a car is 10 m/s

B) The velocity of an object is 6 m/s

4) When does the instantaneous velocity of an object equal its average velocity?

5) The figure shows the straight-line motion of a skater starting from point A at time t=0 min until reaching point D at time t=3 min, covering the distances shown in the figure along the path A to B to C to D. Find the average speed during the entire journey
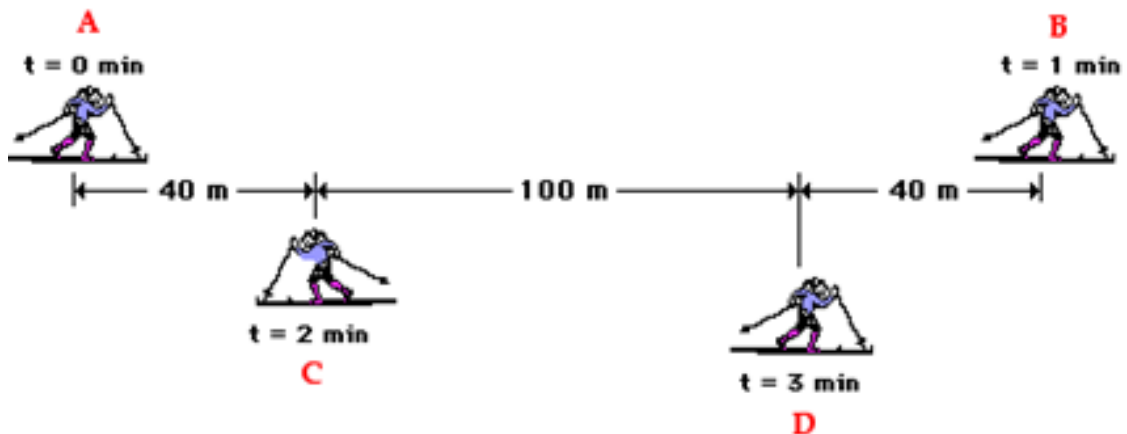
6) A train travels in a straight line for a period of time (t) at an average velocity (v) and then travels for a period of time (3t) at an average velocity (3v).

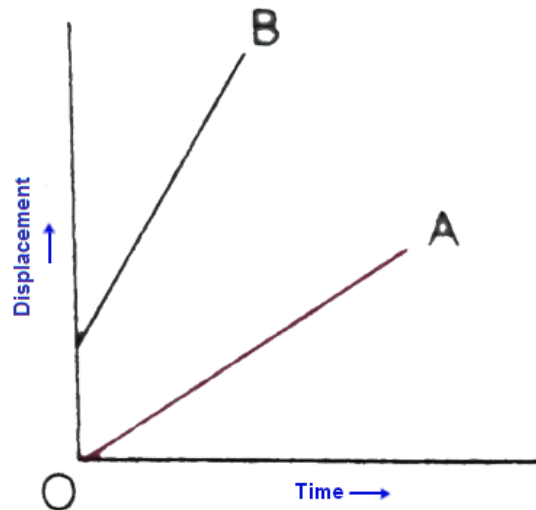**Calculate the average speed of the train during its entire journey.**

7) The figure shows (displacement-time) graph for a moving object
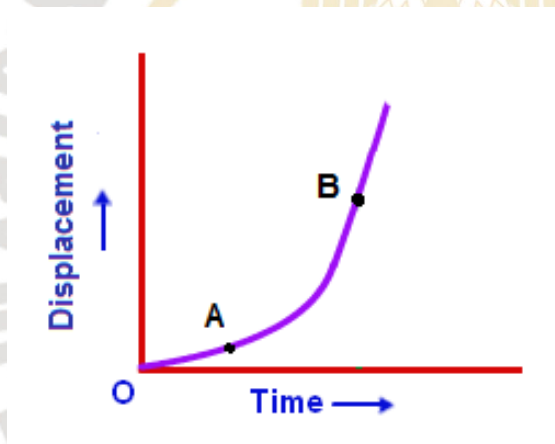
First: Which is more the velocity at (A) or at (B)?

Second: Explain your answer

8) The figure shows (displacement-time) graph for two moving objects (A) and (B).

First: Which object has greater velocity?

Second: Explain your answer