أسئلة مراجعة نهائية وفق الهيكل الوزاري منهج انسباير

موقع المناهج ⇚ المناهج الإماراتية ⇚ الصف العاشر العام ⇚ علوم ⇚ الفصل الأول ⇚ ملفات متنوعة ⇚ الملف
تاريخ إضافة الملف على موقع المناهج: 2024-11-07 14:04:17

المزيد من مادة علوم:	ملفات ا كتب للمعلم ا كتب للطالب ا اختبارات الكترونية ا اختبارات ا حلول ا عروض بوربوينت ا أوراق عمل منهج انجليزي ا ملخصات وتقارير ا مذكرات وبنوك ا الامتحان النهائي ا للمدرس

إعداد: Zewin Adham

التواصل الاجتماعي بحسب الصف العاشر العام

صفحة المناهج الإماراتية على فيسبوك				المواد على تلغرام

الرياضيات	اللغة الانجليزية	اللغة العربية	التربية الاسلامية	المواد على تلغرام

المزيد من الملفات بحسب الصف العاشر العام والمادة علوم في الفصل الأول

1	الهيكل الوزاري الجديد المسار العام منهج بريدج
2	ملخص وشرح الدرس الثالث التراكيب والعضيات من الوحدة الأولى
3	ملخص وشرح الدرس الثاني الغشاء البلازمي من الوحدة الأولى
4	ملخص وشرح الدرس الأول اكتشاف الخلية ونظرية الخلية من الوحدة الأولى
5	عرض بوربوينت درس الأوراق

مراجعة هيكل الفيزياء صف عاشر
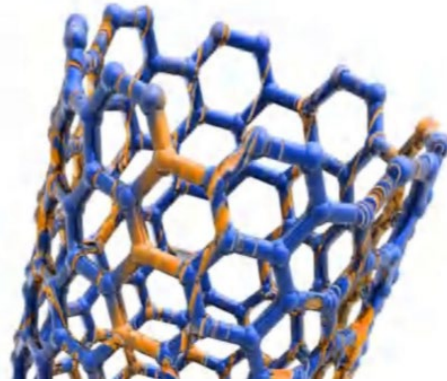
انسبير

EOT REVISION Grade 10-G T-1

Answer   الحلول

Inspire Physics

UAE Edition
Grade 10 General
Student Edition

2024-2025

مراجعة هيكل الفيزياء عاشر عام 2025 Grade 10 G EOT -T1

How many significant digits are in the number 0.004506?

- A) 2
- B) 3
- C) 4
- D) 5

How many significant digits are in the number 120.300?

- A) 4
- B) 5
- C) 6
- D) 7

Which conversion factor is correct to convert km/h to m/s?

A) Multiply by 1000

B) Divide by 1000

C) Multiply by $\dfrac{1000}{60 \times 60}$

D) Divide by $\dfrac{1000}{60 \times 60}$

Calculate (10.8 g – 8.264) and provide the answer with the correct number of significant figures.

A) 2.5 g
B) 2.54 g
C) 2.536 g
D) 2.5360 g

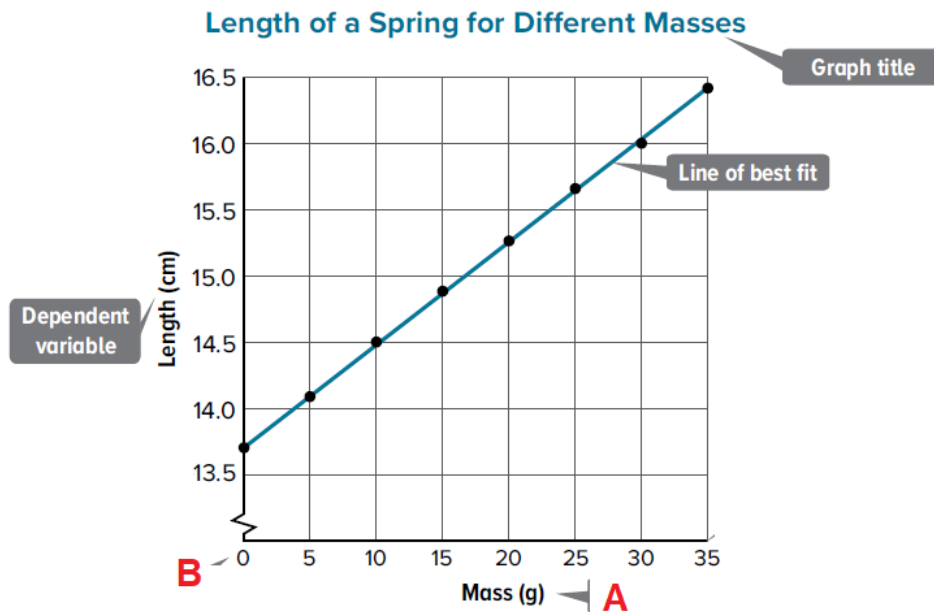**What is the volume of a box with a length of 18.1 cm, width of 19.2 cm, and height of 20.3 cm?**

A) 7.05×10^3 cm^3

B) 7054.656 cm^3

C) 7054.656 cm^2

D) 7.05×10^2 cm^3

What letter A refers to?

Length of a Spring for Different Masses

- A) Dependent variable
- B) line of best fit
- C) Independent variable
- D) origin

Dependent variable	What we measure
Independent variable	What we change

Which variable is the one that we measure in an experiment?
- A) Independent variable
- B) Dependent variable
- C) Constant
- D) Control

What do we call the variable that we deliberately change in an experiment?
- A) Dependent variable
- B) Constant
- C) Independent variable
- D) Control

In a dataset analyzing how fertilizer type influences crop yield, which of the following statements is true regarding the variables?

- A) Fertilizer type is the dependent variable.
- B) Crop yield is the independent variable.
- C) Fertilizer type is the independent variable.
- D) Both variables are independent.

Based on the linear velocity and acceleration equations, which of the following equations is **correct** using dimensional analysis?

اعتمادا على معادلتي السرعة والتسارع الخطي، أي المعادلات التالية **صحيحة** باستخدام التحليل البعدي؟

$$a = \frac{v}{t} \qquad v = \frac{d}{t}$$

A- $a \times d = v$

B- $a \times d = v/t$

C- $a \times d = v^2$

D- $a \times d = v/t^2$

$$y = mx + b$$

$$y = \frac{a}{x}$$

$$y = ax^2 + bx + c$$

According to the given equation below, what relationship exists between the variables F and v?

بالنظر إلى المعادلة التالية ، ما العلاقة بين المتغيرين F وv؟

$$F = \frac{mv^2}{R}$$
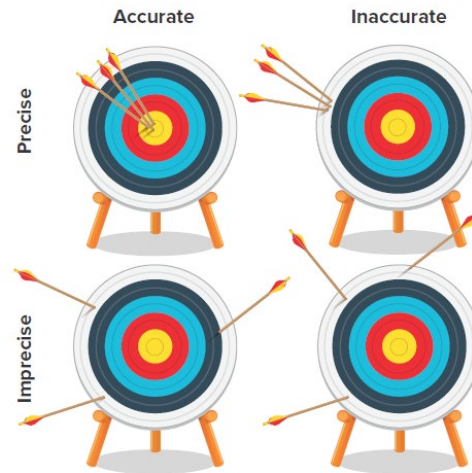
A- Linear
B- Inverse
C- Quadratic
D- Can't be determined

Which of the following equations represents a linear relationship between x and y?

- A) $y = 2x + 3$
- B) $y = x^2 - 4x + 5$
- C) $y = \frac{3}{x}$
- D) $y = 3x^2$

Which of the following equations represents an inverse relationship between x and y?

A) $y = 7 - 2x$

B) $y = 4x^2$

C) $y = \frac{6}{x}$

D) $y = 3 + 5x$

The following shooter is:

A	Precise and accurate
B	Precise and inaccurate
C	Imprecise and accurate
D	Imprecise and inaccurate

Which of the following is an example of a scalar quantity?

- A) Velocity
- B) Force
- C) Temperature
- D) Displacement

Which of the following correctly identifies a vector quantity?

- A) Speed
- B) Distance
- C) Acceleration
- D) Mass

Which of the following statements is true regarding scalar and vector quantities?

- A) Scalars can be added and subtracted like vectors.
- B) Vectors can be multiplied by scalars but not added.
- C) Vectors have both magnitude and direction, while scalars only have magnitude.
- D) Scalars can have negative values.

Which of the following correctly identifies a vector quantity?

- A) 100 km
- B) 100 km north
- C) 100 km/h
- D) 100 J

Which of the following best defines displacement?

- A) The total distance traveled by an object regardless of direction.
- B) The change in the object's position.
- C) The speed of an object at a given moment in time.
- D) The amount of time taken for an object to travel from one point to another.

What is the resultant of two displacement vectors having opposite directions?

A. The resultant is the sum of the two displacements, having the same direction as the larger
B. The resultant is the difference of the two displacements, having the same direction as the larger vector.
C. The resultant is the difference of the two displacements, having the same direction as the smaller vector.
D. The resultant is the sum of the two displacements, having the same direction as the smaller vector.

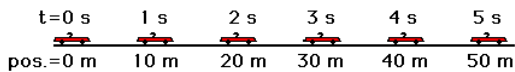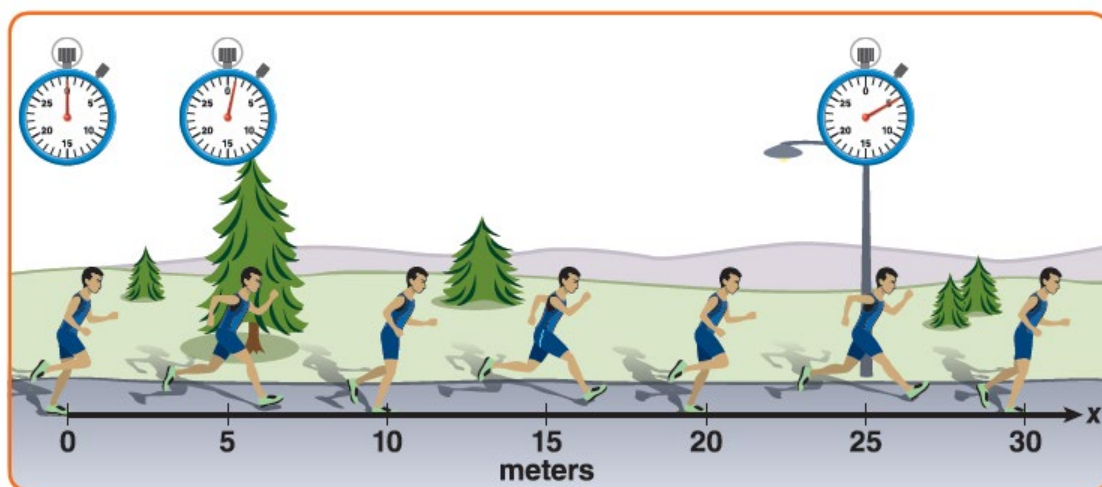Adam has started moving from point A, he passed the points B, C, D as shown in the figure before he came back to point A. What is the displacement and distance respectively?

بدأ آدم الحركة من النقطة A مرورا بالنقاط B,C,D كما هو موضح بالشكل قبل ان يعود مجددا للنقطة A.
ما الازاحة والمسافة التي قطعها آدم على التوالي؟
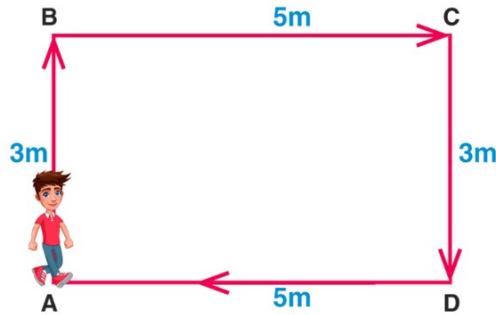
	Displacement	Distance
A	16	16
B	0	34
C	16	34
D	0	16
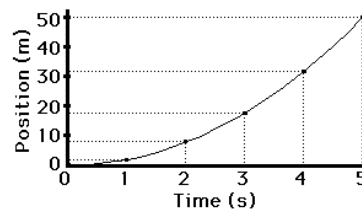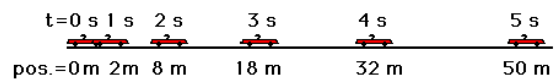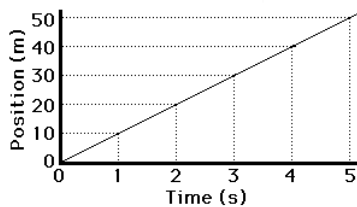
The time interval between 5 m and 25 m is ....

    A- 20 s   B- 5 s

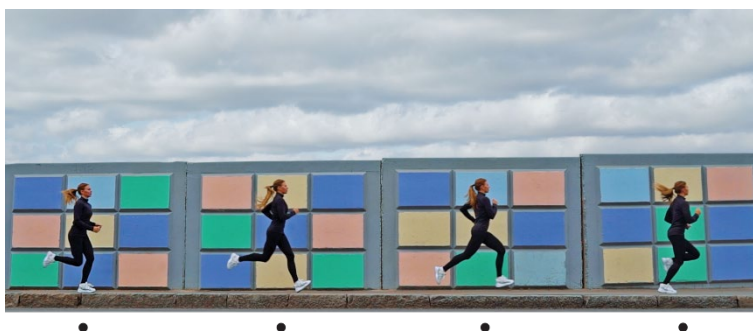   C- 4 s   D- 25 s
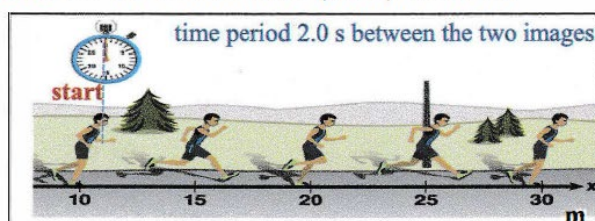
5-Depending on the figure, what is the displacement for the runner after (6.0 s) from the beginning of his movement?
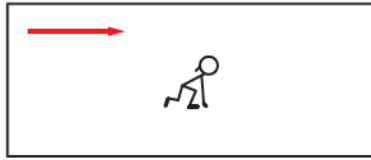
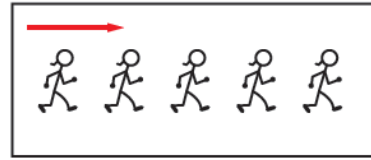 ☐ +25 m   ☐ +15 m

  ☐ −25 cm   ☐ −15 m

- A) Uniform motion
- B) Non-uniform motion
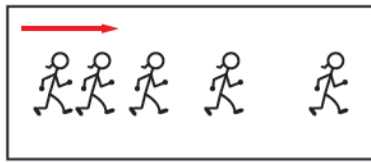- C) Accelerated motion
- D) Circular motion

Which particle dot diagram represents a boy moving with constant speed?
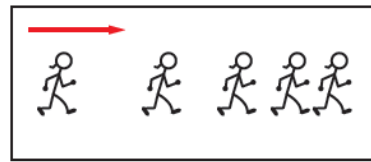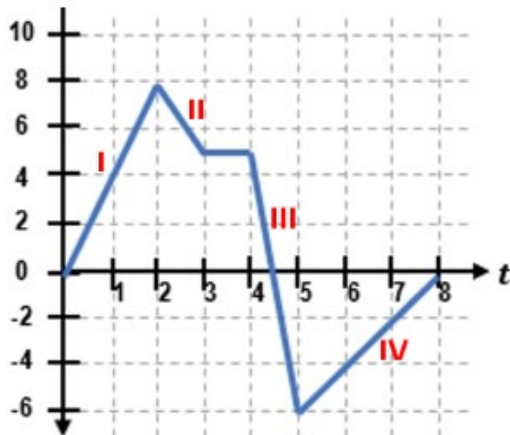

a.

b.

c.

d.

The figure below shows a simplified graph of a bicycle's motion. **When** is the bicycle's **speed greatest**?

يوضح الشكل التالي رسمًا بسيطًا لحركة دراجة. **في أي المراحل** تكون **سرعة** الدراجة **أكبر؟**

	Greatest speed
A	I
B	II
C	III
D	IV

The graph below represents the (position- time) for a deer walking in the zoo. During which **time** is the deer at **rest**?
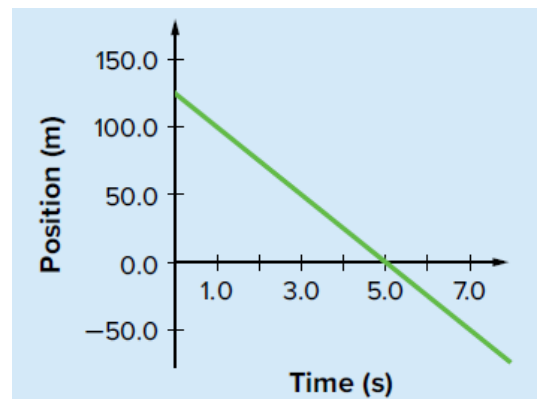
يمثل المنحنى أدناه (الموقع- الزمن) لغزال يمشى فى حديقة الحيوانات. فى أى **فترة زمنية** يكون الغزال ساكناً؟
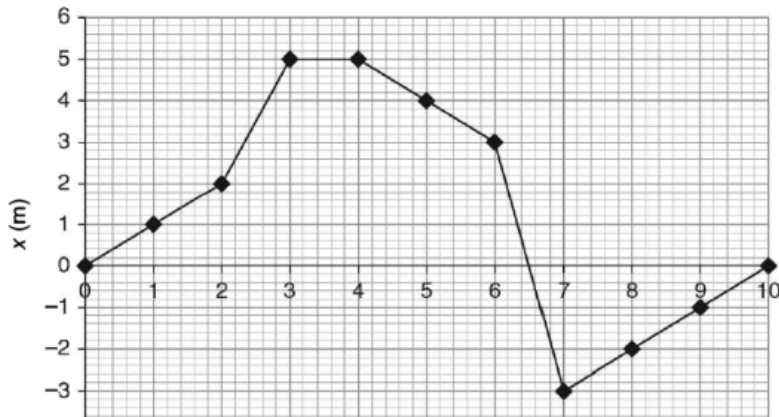
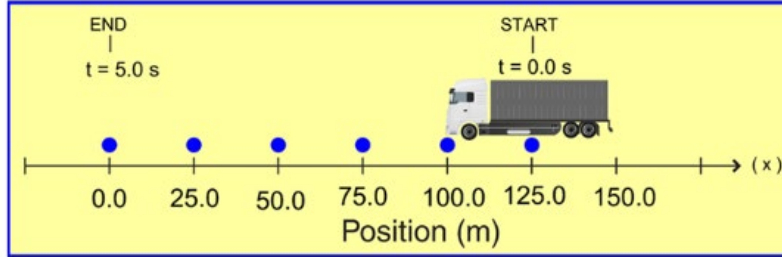|	**Time range**
A	3 – 6 s
B	3 – 4 s
C	0 – 2 s
D	6 – 7 s

Which of the following is the right choice to represent this motion in particle model diagram?

A)
t = 5.0 s   t = 0.0 s
125.0 m   0.0 m

B)
t = 0.0 s   t = 5.0 s
0.0 m   125.0 m

C)
t = 0.0 s   t = 5.0 s
150.0 m   0.0 m

D)
t = 0.0 s   t = 5.0 s
125.0 m   0.0 m

A truck is at a position of x=125.0 m and moves toward the origin x=0.0, as shown in the motion diagram below, what is the velocity of the truck in the given time interval?

تتحرك شاحنة من الموقع x=125.0 m باتجاه نقطة الأصل x=0.0، كما هو موضح في المخطط التالي. ما السرعة المتجهة للشاحنة في الفترة الزمنية المحددة على المخطط؟


You may use the following equations

$\Delta x = x_f - x_i$	$\overline{v} \equiv \dfrac{\Delta x}{\Delta t} = \dfrac{x_f - x_i}{t_f - t_i}$
$x = \overline{v}t + x_i$	$\overline{a} \equiv \dfrac{\Delta v}{\Delta t} = \dfrac{v_f - v_i}{t_f - t_i}$
$v_f = v_i + \overline{a}\,\Delta t$	$x_f = x_i + v_i t_i + \frac{1}{2}\overline{a}t_f^2$
$v_f^2 = v_i^2 + 2\overline{a}(x_f - x_i)$	$g = -9.8 \text{ m/s}^2$

A	25 m/s
B	- 25 m/s
C	125 m/s
D	- 5 m/s

The motion diagrams below show the motion of four busses moving along the x-axis. Which busses have positive acceleration?

تُوضح مخططات الحركة التالية حركة أربع حافلات تتحرك على طول المحور الافقي x. أي الحافلات تتسارع تسارعا موجبا؟
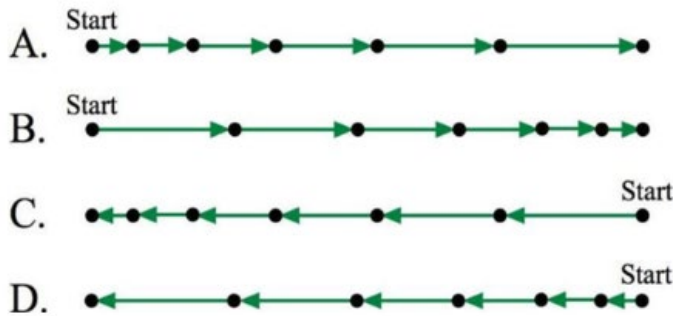

A and B
A and C
B and C
B and D

How can the instantaneous acceleration of an object with varying acceleration be calculated?

كيف يمكن حساب التسارع اللحظي لجسم ما ذي تسارع متغير؟

A. By calculating the slope of the tangent on a velocity-time

B. By calculating the area under the graph on a velocity-time graph

C. By calculating the slope of the tangent on a position-time graph

D. By calculating the area under the graph on a position-time graph

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Which value of acceleration could be found from the tangent at point P?

أي قيمة للتسارع يمكن ايجادها من ميل المماس عند النقطة P؟
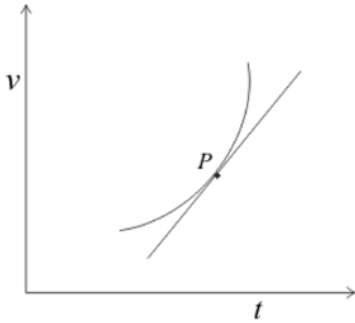
A	Average velocity
B	Instantaneous acceleration
C	Free fall
D	Centripetal acceleration

Which of the following best defines average speed?

- A) The total distance traveled divided by the total time taken.
- B) The change in velocity over a specific period of time.
- C) The maximum speed reached by an object during its motion.
- D) The displacement of an object divided by the time taken.

Which type of motion does the (position-time) graph below represent?

أي من أشكال الحركة يمثله الرسم البياني (الموقع- الزمن) أدناه؟
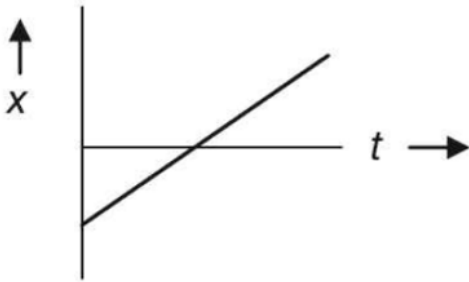
A	motion with constant acceleration
B	Motion with zero speed
C	Motion with zero acceleration
D	Motion with positive acceleration

An object that has negative acceleration is definitely doing what?

- A. accelerating in a direction that is opposite to a stated positive direction.
- B. slowing down
- C. maintaining a constant speed
- D. speeding up

The change in velocity during a measurable time interval, divided by the time interval, is the _____.

- A. average velocity
- B. instantaneous acceleration
- C. instantaneous velocity
- D. average acceleration

The velocity-time graph below represents the motion of 5 runners in a free marathon, which one of the runners changed his running direction during the marathon?

يمثل الرسم البياني للسرعة-الزمن أدناه حركة 5 متسابقين في سباق ماراثون حر، أي من العدائين غيّر اتجاهه في الجري أثناء الماراثون؟
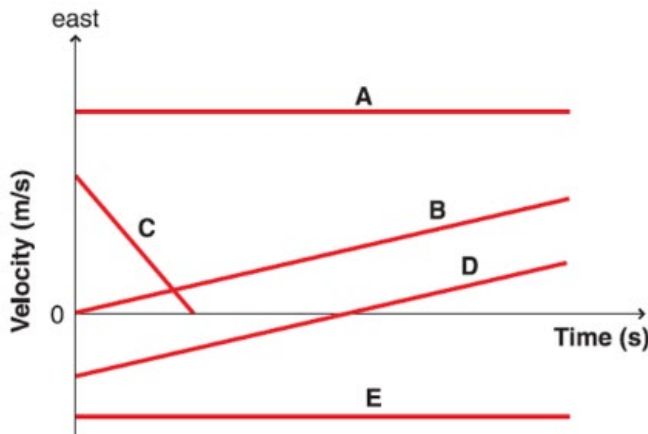
|	**Change direction**
A	Runner D
B	Runner E
C	Runner C
D	Runner B
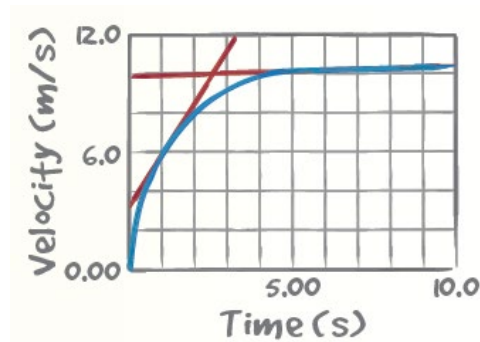
At t = 1.00 s the slope is 2.9 m/s^2 and at t = 5 s the slope is 0.030 m/s^2

Which of the following is True

1. The object is moving with decreasing acceleration.
2. The object is moving with increasing acceleration.
3. The object is moving with constant acceleration.
4. The object is moving with zero acceleration.

A car slows down at a steady rate when its brakes are applied. Which is the most accurate plot of velocity versus time for the braking car?
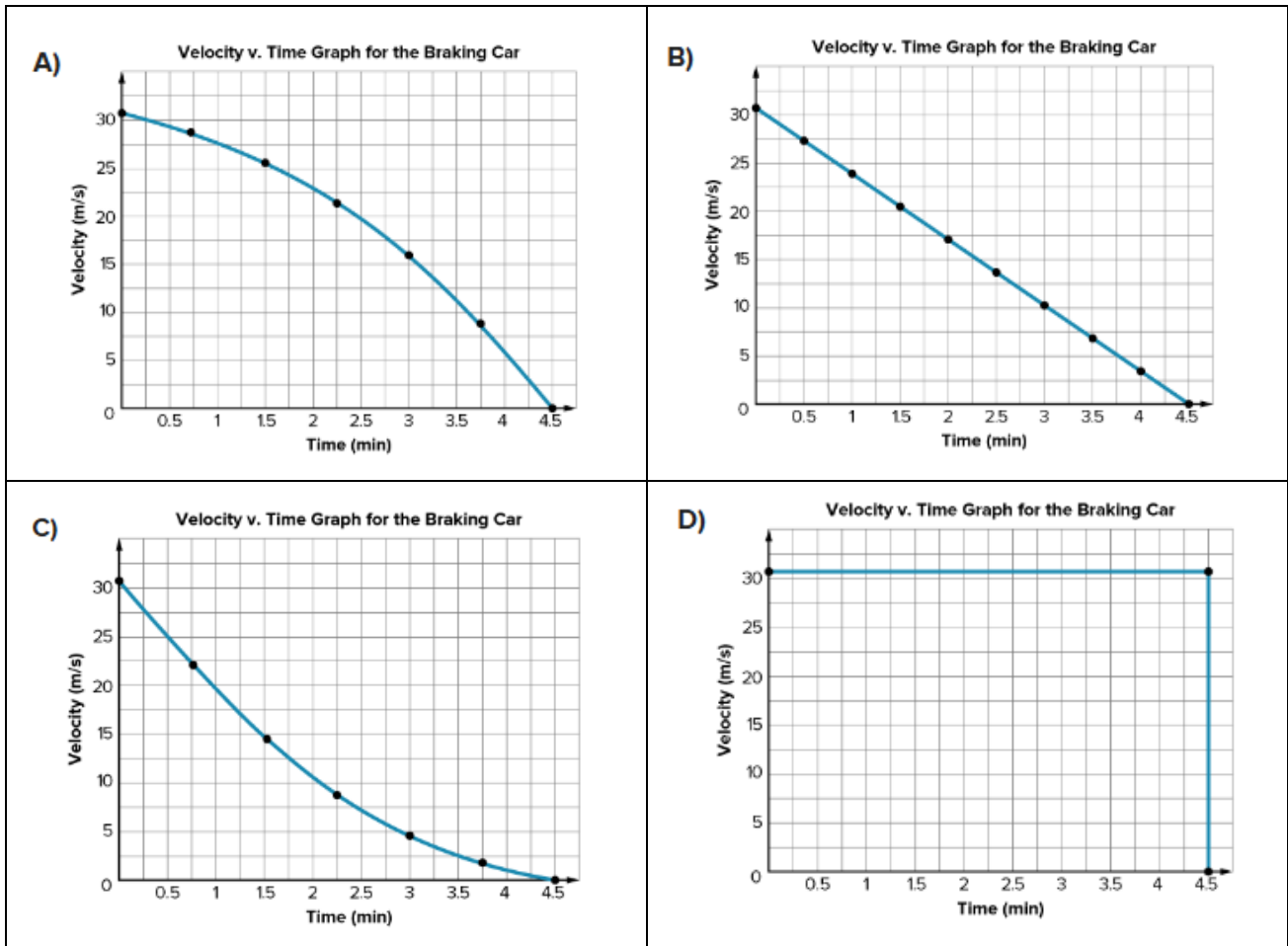
Which formula represents the final velocity of an object with average acceleration?

A) $v_f = v_i + a \, \Delta t$

B) $v_i = v_f + a \, \Delta t$

C) $v_f = v_i a \, \Delta t$

D) $v_i = v_f a \, \Delta t$

A race car's forward velocity increases from 4.0 m/s to 36 m/s over a 4.0-second time interval. What is its average acceleration?

a. 8.0 m/s^2 Forward

b. 9.0 m/s^2 Forward

c. 9.0 m/s^2 Backward

d. 8.0 m/s^2 Backward

The race car in the previous problem slows from 36 m/s to 15 m/s over 3.0 s. What is its average acceleration?

a. 7.0 m/s^2 Forward

b. 9.0 m/s^2 Forward

c. 9.0 m/s^2 Backward

d. 7.0 m/s^2 Backward

A bus takes a time t to stop If a bus took twice as long to stop, how would its acceleration be affected?

A) The acceleration would double.
B) The acceleration would remain the same.
C) The acceleration would be halved.
D) The acceleration would be zero.

A car slows down in a constant rate of 10.0 m/s^2. If the car's velocity is 50.0 m/s, how many meters will it travel before it completely stops?

تتباطأ سيارة بمعدل ثابت يساوي 10.0 m/s^2 ، إذا كانت سرعة السيارة 50.0 m/s، ما المسافة التي تقطعها السيارة قبل أن تتوقف كليا؟
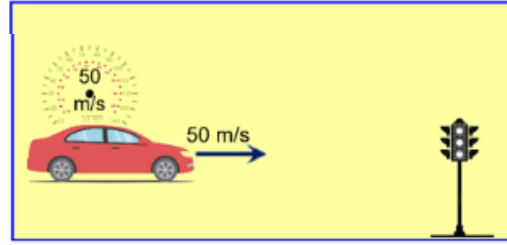
	distance
A	200 m
B	125 m
C	250×10^3 m
D	250 m

A car travels a distance in 6 s, if its initial velocity is 2 m/s and its acceleration is 2 m/s^2, how far does the car travel?

تقطع سيارة مسافة خلال 6 s، إذا كانت سرعتها المتجهة الابتدائية 2 m/s وتسارعها 2 m/s^2، ما المسافة التي قطعتها السيارة؟

You may use the following equations

$\Delta x = x_f - x_i$	$\overline{v} \equiv \dfrac{\Delta x}{\Delta t} = \dfrac{x_f - x_i}{t_f - t_i}$
$x = \overline{v}t + x_i$	$\overline{a} \equiv \dfrac{\Delta v}{\Delta t} = \dfrac{v_f - v_i}{t_f - t_i}$
$v_f = v_i + \overline{a}\,\Delta t$	$x_f = x_i + v_i t_f + \frac{1}{2}\overline{a}t_f^2$
$v_f^2 = v_i^2 + 2\overline{a}(x_f - x_i)$	$g = -9.8 \text{ m/s}^2$

	distance
A	14 m
B	24 m
C	48 m
D	12 m

A car starts from rest and goes down a hill with a constant acceleration of 5 m/s^2. After 5 s the car reaches the bottom of the hill. What is the car's final speed?

تبدأ سيارة الحركة من السكون وتهبط على منحدر بتسارع ثابت يساوي 5 m/s^2. تصل السيارة بعد 5 s إلى قاع المنحدر. ما سرعة السيارة النهائية؟

You may use the following equations	
$\Delta x = x_f - x_i$	$\overline{v} \equiv \dfrac{\Delta x}{\Delta t} = \dfrac{x_f - x_i}{t_f - t_i}$
$x = \overline{v}t + x_i$	$\overline{a} \equiv \dfrac{\Delta v}{\Delta t} = \dfrac{v_f - v_i}{t_f - t_i}$
$\boldsymbol{v_f = v_i + \overline{a}\,\Delta t}$	$x_f = x_i + v_i t_f + \frac{1}{2}\overline{a} t_f^2$
$v_f^2 = v_i^2 + 2\overline{a}(x_f - x_i)$	$g = -9.8 \text{ m/s}^2$

	Final speed
A	25 m/s
B	50 m/s
C	10 m/s
D	1 m/s

A car in a drag race started from rest and accelerated constantly to a velocity of 50 m/s when it reached the end of a 500 m road. What was the car's average acceleration?

تبدأ سيارة سباق الحركة من السكون وتتسارع بمعدل ثابت إلى أن اصبحت السرعة 50 m/s عندما وصلت السيارة إلى نهاية طريق طوله 500 m. ما التسارع المتوسط للسيارة؟

You may use the following equations	
$\Delta x = x_f - x_i$	$\overline{v} \equiv \dfrac{\Delta x}{\Delta t} = \dfrac{x_f - x_i}{t_f - t_i}$
$x = \overline{v}t + x_i$	$\overline{a} \equiv \dfrac{\Delta v}{\Delta t} = \dfrac{v_f - v_i}{t_f - t_i}$
$\boldsymbol{v_f = v_i + \overline{a}\,\Delta t}$	$x_f = x_i + v_i t_f + \frac{1}{2}\overline{a} t_f^2$
$v_f^2 = v_i^2 + 2\overline{a}(x_f - x_i)$	$g = -9.8 \text{ m/s}^2$

50 m/s

	Average acceleration
A	-2.5 m/s^2
B	0.5 m/s^2
C	2.5 m/s^2
D	-0.5 m/s^2

A construction worker accidentally drops a brick from a high scaffold. What is the **velocity** of the brick after **5.0 s**?

سقط قالب من الطوب من عامل بناء بطريق الخطأ من سقالة عالية. ما **السرعة المتجهة** للقالب بعد **5.0 s**؟

You may use the following equations

$\Delta x = x_f - x_i$	$\bar{v} \equiv \dfrac{\Delta x}{\Delta t} = \dfrac{x_f - x_i}{t_f - t_i}$
$x = \bar{v}t + x_i$	$\bar{a} \equiv \dfrac{\Delta v}{\Delta t} = \dfrac{v_f - v_i}{t_f - t_i}$
$v_f = v_i + \bar{a}\,\Delta t$	$x_f = x_i + v_i t_f + \frac{1}{2}\bar{a}t_f^2$
$v_f^2 = v_i^2 + 2\bar{a}(x_f - x_i)$	$g = -9.8 \text{ m/s}^2$

	velocity
A	-49 m/s
B	49 m/s
C	2 m/s
D	-2 m/s

The (position-time) graph below shows a cyclist's location in a **60s**-time interval. What is the cyclist's **displacement** from the **starting** position after **40.0 s**?

يوضح الرسم البياني (للموقع-الزمن) أدناه موقع راكب دراجة في فاصل زمني **60s**. ما **إزاحة** راكب الدراجة عن نقطة البداية بعد **40.0 ثانية** من بدء الحركة؟
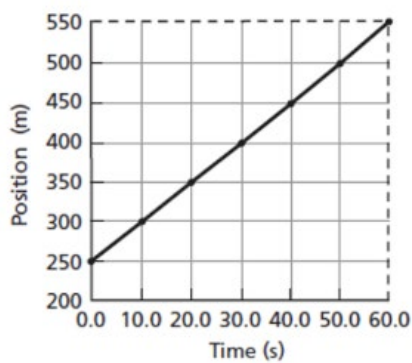
	Displacement
A	200 m
B	400 m
C	450 m
D	250 m

As a ball falls towards the ground, **what happens to its speed?** (Ignore air resistance)

بينما تسقط كرة نحو الأرض، **ماذا يحدث لسرعتها؟** (أهمل مقاومة الهواء)

	Speed
A	increases
B	decreases
C	Stay constant
D	Becomes zero

Yousef is learning to ride a bike. His father pushes him with a constant acceleration for 4.0 s, and then Yousef continues at 6.0 m/s for another 5.0 s before slowing down until he completely stopped after 3 s. What is Yousef's **displacement** in the first 9 s?

يتعلم يوسف ركوب الدراجة. يدفعه والده بتسارع ثابت لمدة 4.0 s، ثم يستمر يوسف بالحركة بسرعة 6.0 m/s لمدة 5.0 s أخرى قبل أن يتباطأ حتى يتوقف تمامًا بعد 3 s. ما إزاحة يوسف بعد 9 s من بدء الحركة؟

Velocity Time Graph
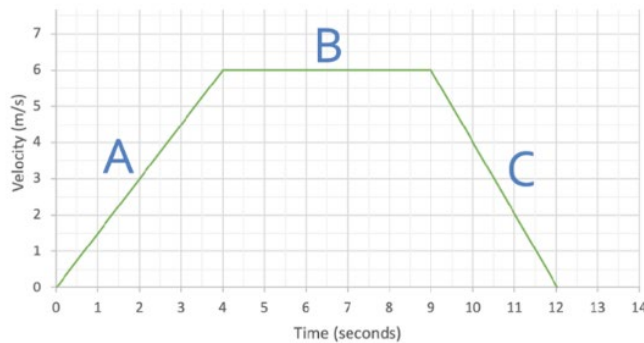
	Displacement
A	6vm
B	51 m
C	30 m
D	42 m

Omar Abdulrahman in a match representing his country UAE kicked the ball vertically upward. What is the direction of the ball's velocity and acceleration while going up in the Air?

قام اللاعب عمر عبد الرحمن في مباراة يمثل فيها منتخب بلاده الامارات بركل الكرة رأسيًا لأعلى

ما اتجاه سرعة الكرة وعجلتها أثناء صعودها في الهواء؟

|	Velocity direction	Acceleration direction
A	↑	↓
B	↑	↑
C	↓	↓
D	↓	↑

Kareem drops three balls with different masses from the same height. Which ball has the **greatest acceleration**? (Ignore air resistance)

يُسقِط كريم ثلاث كرات لها كتل مختلفة من نفس الارتفاع. أي كرة لديها أكبر تسارع؟ (أهمل مقاومة الهواء)
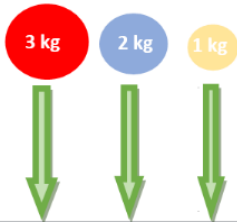
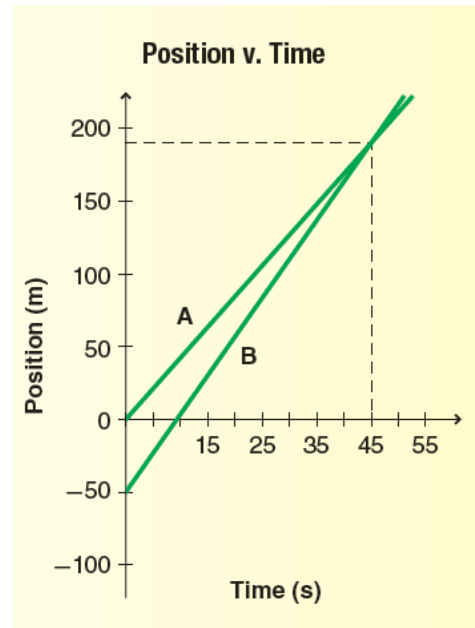| A	The red ball
B	The blue ball
C	All balls have the same acceleration
D	The yellow ball

Which position-time graph has a speed of +5 m/s ?
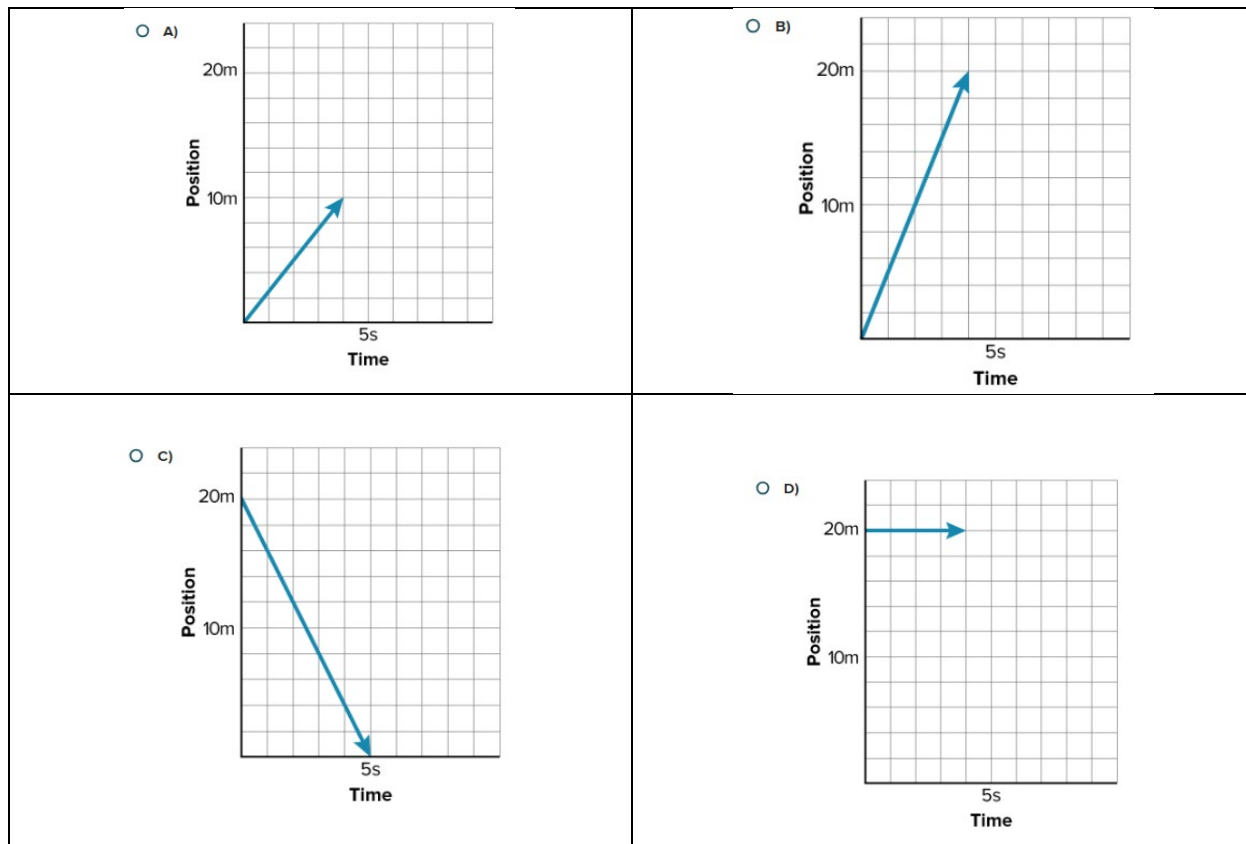
Written part

Where was runner A located at $t = 0$ s?

Which runner was ahead at $t = 48.0$ s?
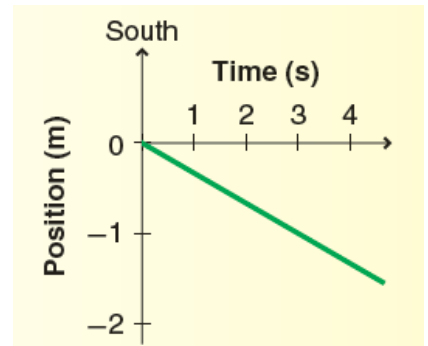
When runner A was at 0.0 m, where was runner B?

How far apart were runners A and B at $t = 20.0$ s?

Position v. Time

The graph describes the motion of a cruise ship drifting slowly through calm waters. The positive x-direction (along the vertical axis) is defined to be south.

a. What is the ship's average speed?

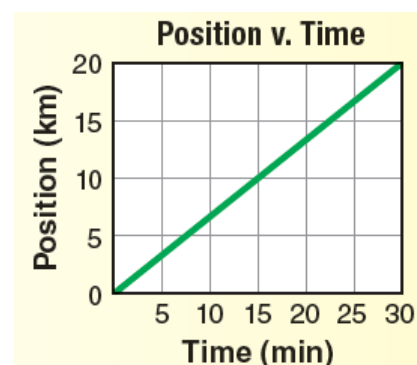**b.** What is its average velocity?

Describe, in words, the cruise ship's motion in the previous problem.

What is the average velocity of an object that moves from 6.5 cm to 3.7 cm relative to the origin in 2.3 s?

The graph in represents the motion of a bicycle.

a. What is the bicycle's average speed?

b. What is its average velocity?
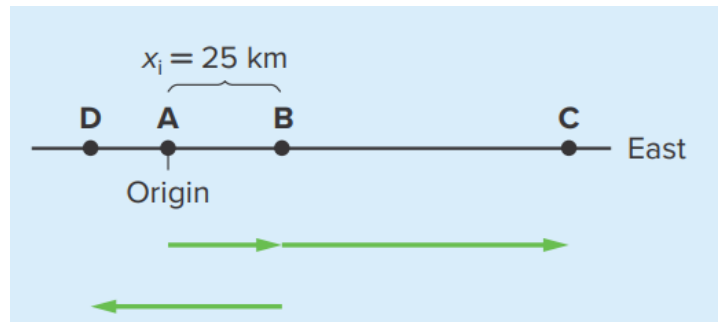

Position v. Time

Find the distance travelled and displacement if the object moved from 1 to 2 then back to 3
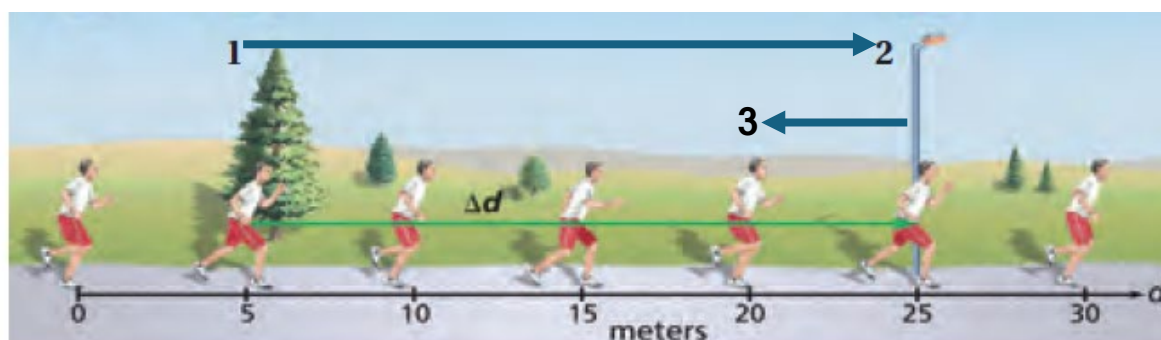
Distance

Displacement

The diagram at the right shows the path of a ship that sails at a constant velocity of 42 km/h east. What is the ship's position when it reaches point **C,** relative to the starting point, **A,** if it sails from point **B** to point **C** in exactly 1.5 h?

**Let east be the positive direction.**

Another ship starts at the same time
from point **B,** but its average velocity is 58 km/h east. What is its position, relative to **A,** after 1.5 h?

Let east be the positive direction.

What would a ship's position be if that ship started at point **B** and traveled at an average velocity of 35 km/h west to point **D** in a time period of 1.2 h?

Using the following graph find

The displacement of car A after 3 s
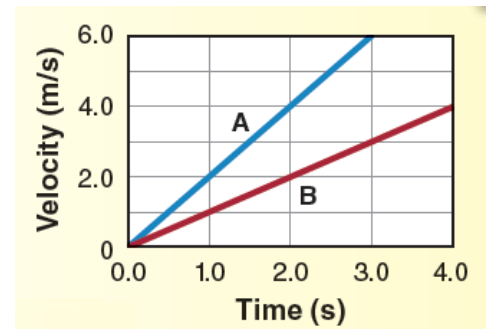
**The displacement of car A after 3 s**

A skateboarder is moving at a constant speed of 1.75 m/s when she starts up an incline that causes her to slow down with a constant acceleration of –0.20 m/s². How much time passes from when she begins to slow down until she begins to move back down the incline?

A race car travels on a straight racetrack with a forward velocity of 44 m/s and slows at a constant rate to a velocity of 22 m/s over 11 s. How far does it move during this time?

A car with an initial velocity of 24.5 m/s east has an acceleration of 4.2 m/s² west. What is its displacement at the moment that its velocity is 18.3 m/s east?

A man runs along the path shown in **Figure.**
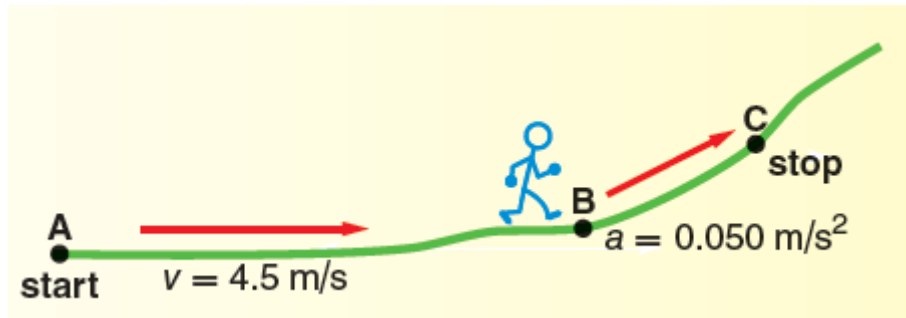
From point A to point B, he runs at a forward velocity of 4.5 m/s for 15.0 min. From point B to point C, he runs up a hill. He slows down at a constant rate of 0.050 m/s² for 90.0 s and comes to a stop at point C. What was the total distance the man ran?

Zayed cycles on a straight road near his house. After some time, his brother Ali also starts cycling. Their motions are represented by the position-time graphs given below.

a. How long had Zayed been cycling when Ali started cycling?

b. What is the position at which Ali crosses Zayed?

c. What is the difference between their positions after 5 s?
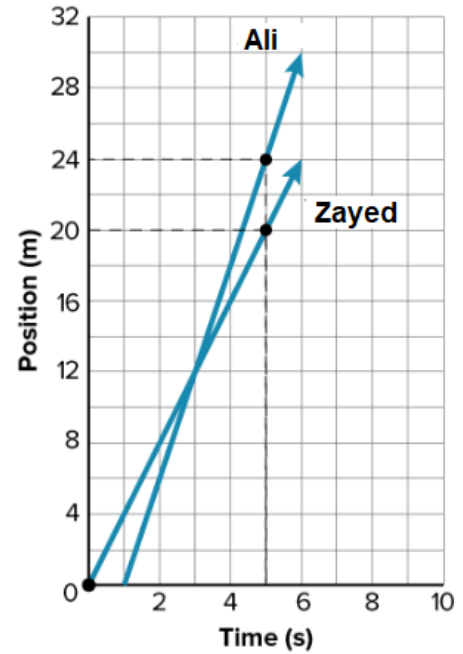
Two cars travel along a straight road. When a stopwatch reads $t = 0.00$ h, car A is at $x_A = 48.0$ km moving at a constant speed of 36.0 km/h. Later, when the watch reads $t = 0.50$ h, car B is at $x_B = 0.00$ km moving at 48.0 km/h. Answer the following questions, first graphically by creating a position-time graph, and then algebraically by writing equations for the positions x_A and x_B as a function of the stopwatch time, t.

a. What will the watch read when car B passes car A?

Position v. Time
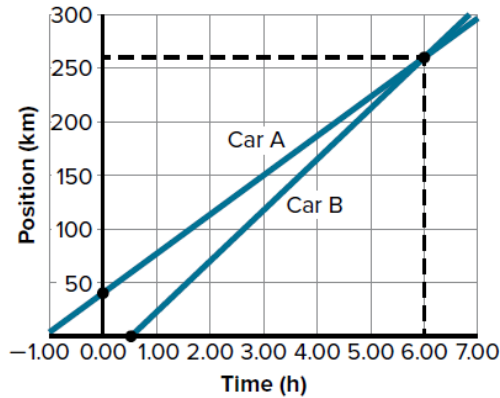
Cars pass when the distances are equal, $x_A = x_B$

$x_A = 48.0$ km $+ (36.0$ km/h$)t$

and $x_B = 0 + (48.0$ km/h$)(t - 0.50$ h$)$

so, 48.0 km $+ (36.0$ km/h$)t = (48.0$ km/h$)(t - 0.50$ h$)$

$(48.0$ km$) + (36.0$ km/h$)t = (48.0$ km/h$)t - 24$ km

72 km $= (12.0$ km/h$)t$

$t = 6.0$ h

b. At what position will car B pass car A?

$x_A = 48.0$ km $+ (36.0$ km/h$)(6.0$ h$)$

$= 2.6 \times 10^2$ km

c. When the cars pass, how long will it have been since car A was at the reference point?

$x = vt$

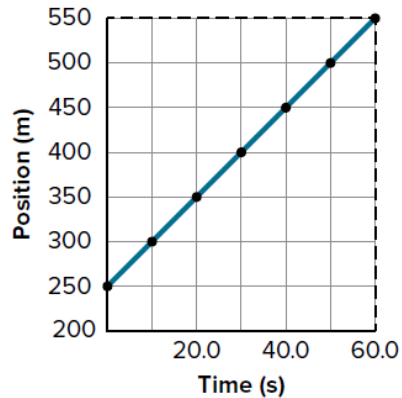so $t = \frac{x}{v} = \frac{-48.0 \text{ km}}{36.0 \text{ km/h}} = -1.33$ h

Car A started 1.33 h before the clock started.

$t = 6.0$ h $+ 1.33$ h $= 7.3$ h

A cyclist traveling along a straight path maintains a constant velocity of 5.0 m/s west. At time $t = 0.0$ s, the cyclist is 250 m west of point A.

a. Plot a position-time graph of the cyclist's location from point A at 10.0-s intervals for a total time of 60.0 s.

Position v. Time

b. What is the cyclist's position from point A at 60.0 s?
Let west be positive.

$x = \bar{v}t + x_i$

$= (5.0 \text{ m/s})(60.0 \text{ s}) + 250 \text{ m}$

$= 550 \text{ m}$
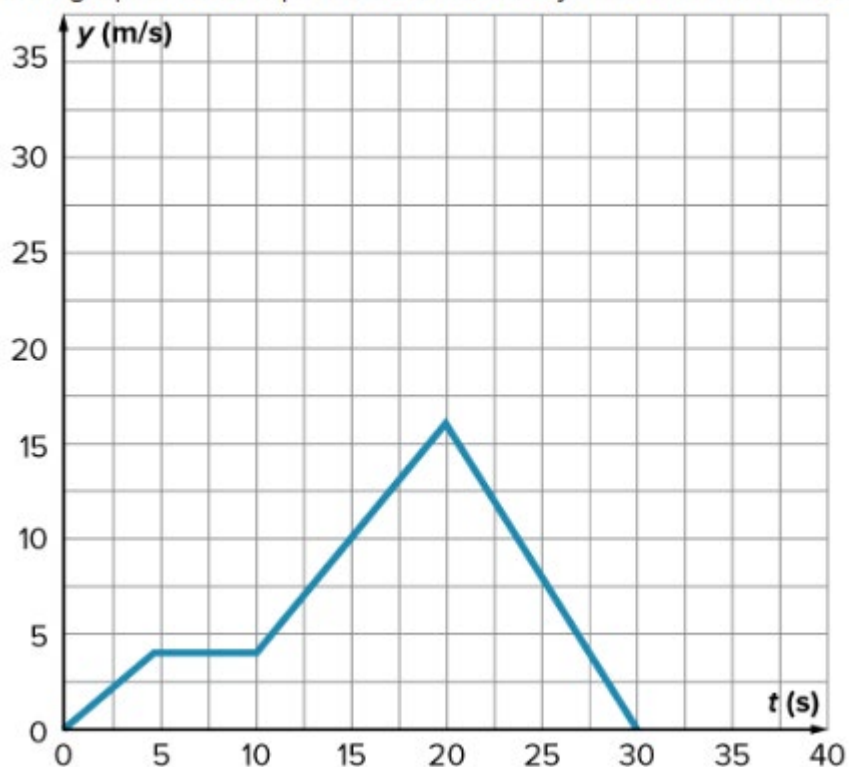
$x = 550 \text{ m west}$

c. What is the displacement from the starting position at 60.0 s?
$550 \text{ m} - 250 \text{ m} = 3.0 \times 10^2 \text{ m}$

The graph below represents the velocity-time variation of a car's motion.

Use the graph to find:

a. The acceleration of the car between t=0 s and t=5 s.

b. The acceleration of the car between t=5 s and t=10 s.

c. The acceleration of the car between t=20 s and t=30 s.