دليل تدريبات اختبار المتقدم

تم تحميل هذا الملف من موقع المناهج الإماراتية

موقع المناهج ⇦ المناهج الإماراتية ⇦ الصف التاسع المتقدم ⇦ فيزياء ⇦ الفصل الأول ⇦ ملفات متنوعة ⇦ الملف

تاريخ إضافة الملف على موقع المناهج: 2026-11-12 14:37:46

المزيد من مادة فيزياء: 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: Cyclewala Portia

التواصل الاجتماعي بحسب الصف التاسع المتقدم

صفحة المناهج الإماراتية على فيسبوك					
المواد على تلغرام	التربية الاسلامية	اللغة العربية	اللغة الانجليزية	الرياضيات	

المزيد من الملفات بحسب الصف التاسع المتقدم والمادة فيزياء في الفصل الأول

1	دليل ممارسة اختبار
2	شرح السقوط الحر وتسارعه ورسومه البيانية – الدرس 3
3	هيكل اختبار نهاية الفصل
4	مراجعة مركزة في – أسئلة وتدريبات
5	ملخص ومراجعة درس التسارع

تحميل تطبيق المناهج للهواتف الذكية	
تطبيق المناهج على Store App (آبل)	تطبيق المناهج على Play Google (أندرويد)

Al Jahili School C2/3

School Operation Sector 2

Council 6 Cluster 6

Grade 09 Advanced Physics
Academic Year 2023/2024 – Term 1

Exam Practice Guide
(2023 - 2024)

School Principal: Bakhita Al Neyadi

Vice Principal: Fatima Al Nasri

Teacher: Portia Cyclewala

Student Name:

_____

1.

أي من المصطلحات التالية تمثل خطوات يقوم بها العلماء لإجراء تحقيق أو حل مشكلة معينة؟

Which of the following terms represent the series of steps or the procedure that scientists follow to investigate or solve a problem?

- O الفرضية Hypothesis
- O القانون العلمي Scientific law
- O المنهج العلمي Scientific methods
- O النظرية Theory

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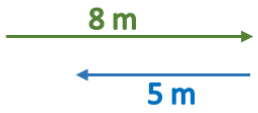
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2.

يمثل الشكل متجهين، الأول طوله (8 m) باتجاه الشرق والثاني طوله (5 m) باتجاه الغرب.
ما **مجموع هذين المتجهين**؟

In the figure there are two vectors. The first vector magnitude is (8 m) directed east, and the second vector magnitude is (5 m) directed west.
What is the sum of the two vectors?



(13 m)
East – شرقاً

(3 m)
East – شرقاً

(13 m)
West - غرباً

(3 m)
West - غرباً

_____

_____

_____

_____

_____

_____

3.

ما الوحدة الأساسية (SI – unit) لدرجة الحرارة؟

What is the basic (SI – unit) of temperature?

سيليزي

Celsius

جول

Joule

فهرنهايت

Fahrenheit

كلفن

Kelvin

_____

_____

_____

_____

4.

أي من مخططات الحركة لنموذج جسيم يوافق حركة الطائر المبينة في الشكل التالي؟

Which of the following **particle model motion diagrams** represent the motion of flying bird in the figure?




.a


.b


.c


.d

5.

سقط أصيص زهور من شرفة مرتفعة عن الأرض واستغرق سقوطه زمناً مقداره (3.5 s) قبل أن يرتطم بالأرض. ما هو ارتفاع الشرفة عن سطح الأرض ؟
أهمل مقاومة الهواء.

A flowerpot (vase) falls off a balcony and takes (3.5 s) to hit the ground.
What is the height of the balcony?

Neglect air resistance.

$a = 9.8\ m/s^2$

$v_f = v_i + \bar{a}\Delta t$

$x_f = x_i + v_i t_f + \left(\frac{1}{2}\right) a\, t_f^2$

$v_f^2 = v_i^2 + 2a\,(x_f - x_i)$

60 m

8.5 m

85 m

16 m

6.

تمثل الأسهم في الصورة ثلاثة قياسات أخذها أحد العلماء أثناء إحدى التجارب. اعتماداً على الصورة التالية، أي من العبارات التالية صحيحة استناداً للضبط والدقة ؟

The three arrows represent three measurements for an experiment. Depending on the picture, which of the following statements is correct regarding to precision and accuracy?



قياسات دقيقة و مضبوطة

Measurements are precise and accurate .a

قياسات دقيقة و لكنها غير مضبوطة

Measurements are accurate but not precise .b

قياسات غير دقيقة و غير مضبوطة

Measurements are not precise and not accurate .c

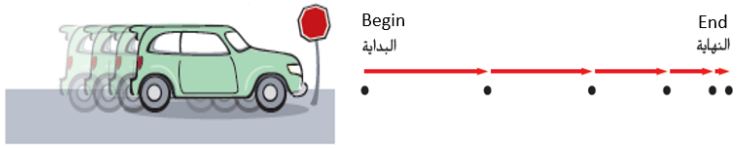
قياسات مضبوطة و لكنها ليست دقيقة

Measurements are precise but not accurate .d

7.

تتحرك سيارة من نقطة البداية باتجاه اليمين بسرعة متغيرة وبخط مستقيم حتى تصل لنقطة النهاية، كما هو موضح في الشكل. إي العبارات التالية صحيحة بالنسبة لحركة السيارة ؟

The car in the figure travels from the Start point to the End point in a straight line with a variable speed. Which of the following statements is true about the motion of the car?



a. تتناقص السرعة ويكون التسارع باتجاه اليمين
Speed decreases and acceleration is directed to the right

b. السرعة المتجهة والتسارع ثابتين بالمقدار باتجاه اليمين
Velocity and acceleration remain constant in magnitude and both are directed to the right

c. تزداد السرعة و يكون التسارع باتجاه اليسار
Speed increases and acceleration is directed to the left

d. تتناقص السرعة ويكون التسارع باتجاه اليسار
Speed decreases and acceleration is directed to the left

8.

يمثل الرسم البياني السرعة المتجهة مع الزمن لجسم متحرك. ما هو التسارع المتوسط للجسم خلال الفترة الزمنية بين (**t = 2.0 s**) و (**t = 4.0 s**) ؟

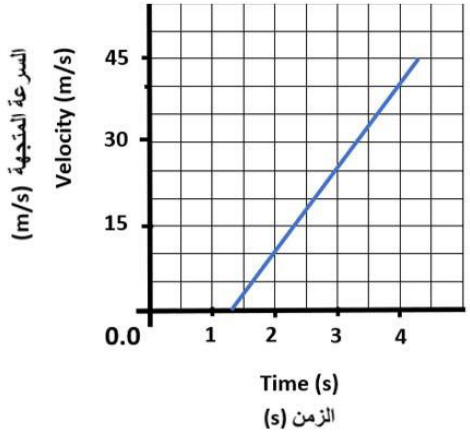
The figure represents the velocity versus time for a moving object. What is the Average acceleration for the object during the time interval from (**t = 2.0 s**) till (**t = 4.0 s**)?

(0.0) m/s^2

(+ 11) m/s^2

(+ 5.0) m/s^2

(+ 15) m/s^2



9.

ما الصيغة الرياضية الصحيحة لإيجاد مقدار التسارع (a) عند استخدام المعادلة $v_f^2 = v_i^2 + 2ax$ ؟

What is the correct formula manipulation to find acceleration (a) when using the equation $v_f^2 = v_i^2 + 2ax$?

a. $\frac{v_f^2 - v_i^2}{x}$

b. $\frac{v_f^2 - v_i^2}{2x}$

c. $\frac{(v_f - v_i)^2}{2x}$

d. $\frac{v_f^2 + v_i^2}{2x}$

10.

يركض أحمد نحو ملعب كرة القدم بسرعة (v_i = **4.50** m/s) . عندما نظر إلى ساعته لاحظ أن لديه متسع من الوقت قبل أن تبدأ المباراة فأخذ يبطئ من سرعته خلال فترة زمنية مقدارها 10.0 s ، لتصبح سرعته النهائية (v_f = **0.95** m/s) . ما مقدار التسارع المتوسط خلال هذه الفترة التي تبلغ (**10.0 s**) ؟

Ahmad was running toward the football field with the speed of (v_i = **4.50** m/s). He felt he had time so he started to slow down, and he reached the speed of (v_f = **0.95** m/s) after 10.0 s . What was the magnitude of his average acceleration during this (**10.0 s**) time interval ?

$$a = \frac{\Delta v}{\Delta t}$$

1.80 m/s²

0.712 m/s²

0.355 m/s²

35.5 m/s²

11.

أي من الأرقام التالية يساوي 72.5 cm ؟

Which of the following numbers equals **72.5** cm?

a. 7.25×10^{-4} km

b. 725 dm

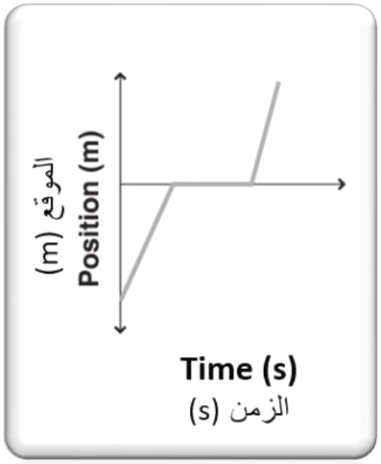
c. 0.725 mm

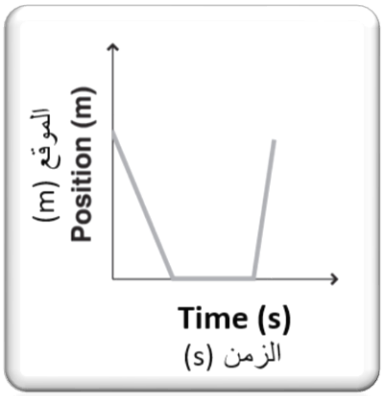
d. 0.725 m

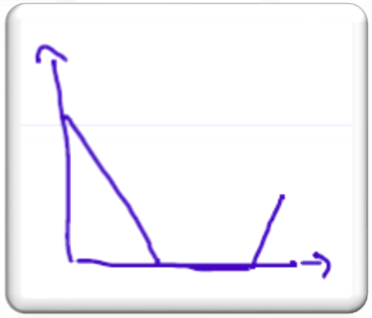
12.

نزلت قطة من أعلى جدار طوله **(2.5 m)** بسرعة ثابتة في فترة زمنية مقدارها **15 s** ، ومكثت على الأرض دون حركة فترة **25 s** . بعد ذلك قفزت لأعلى صندوق ارتفاعه **(1.25 m)** في غضون **2 s** . افترض أن جميع السرعات ثابتة. أي من الرسومات البيانية التالية يمثل حركة القطة؟

A cat took **15 s** to go down a fence, whose height is **(2.5 m)**, with a constant speed. The cat stopped on the ground for **25 s**, then suddenly jumped in **2 s** up a box whose height is **(1.25 m)** with a constant speed. The diagrams represent position versus time curves. Which of the following diagrams represent the motion of the cat?







13.

كم تبلغ السرعة المتوسطة المتجهة لشاحنة تتحرك على طول مسار مستقيم إذا كانت إزاحتها (180 m) باتجاه الشرق خلال فترة زمنية (9.0 s) ؟

A moving truck makes the displacement of (180 m) toward east in a period of (9.0 s). What is the average velocity of the truck?

a. (**12** m/s) East – شرقاً

b. (**96** m/s) East – شرقاً

c. (**40** m/s) East – شرقاً

d. (**20** m/s) East – شرقاً

14.

What is the number of significant figures in the number 0.0004020?

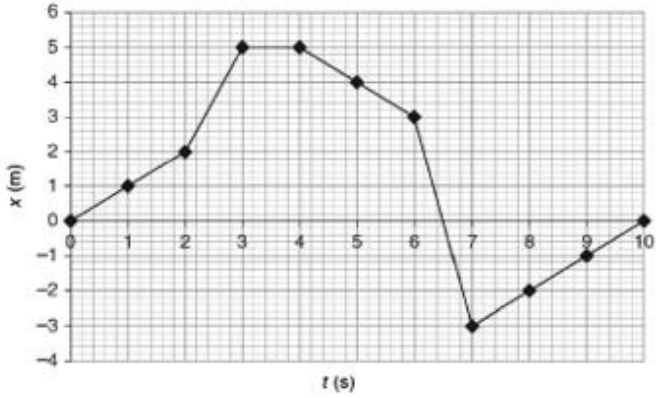
ما عدد الأرقام المعنوية في العدد 0.0004020؟

a. 4
b. 8
c. 2
d. 7

15.

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 يمشي في حديقة الحيوانات. في أي فترة زمنية يكون الغزال ساكنا؟



a. 3-4 s

b. 3-6 s

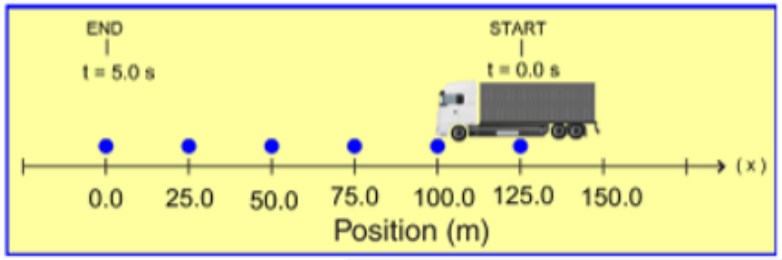
c. 6-7 s

d. 0-2 s

16.

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؟



a. -25 m/s

b. 25 m/s

c. 125 m/s

d. -5 m/s

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

17.

Below is a data table produced by four groups of students who were measuring the mass of a paper clip which had a known mass of 1.04 g, which group got a properly accurate and precise measurement of the mass of the paper clip?

قامت أربع مجموعات من الطلاب بقياس كتلة مشبك ورق له كتلة معروفة تساوي 1.04 g . إذا دون الطلاب نتائجهم في الجدول التالي ،فأي المجموعات كان قياسها دقيقًا ومضبوطًا لكتلة مشبك الورق؟

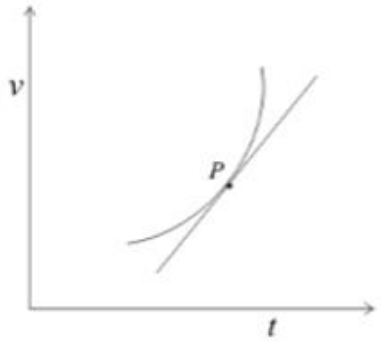
	Group 1	Group 2	Group 3	Group 4
Trial 1 محاولة 1	1.03 g	1.13 g	1.04 g	0.99 g
Trial 2 محاولة 2	1.05 g	1.10 g	1.41 g	1.00 g
Trial 3 محاولة 3	1.02 g	1.11 g	1.52 g	1.19 g

a. Group 1
b. Group 2
c. Group 3
d. Group 4

18.

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

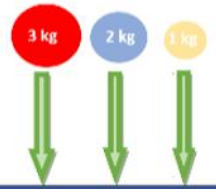
أي قيمة للتسارع يمكن ايجادها من ميل المماس عند النقطة P؟



a. Instantaneous acceleration
b. Average acceleration
c. Centripetal acceleration
d. Free fall acceleration

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. All the balls have the same acceleration.
b. The blue ball
c. The red ball
d. The yellow ball

20.

The Saudi football national player Saleh Al-Shehri kicked the ball vertically upwards in Qatar World Cup 2022. What is the direction of the ball's velocity and acceleration while going up in the air?

ركل لاعب المنتخب السعودي صالح الشهري الكرة رأسيًا لأعلى في كأس العالم قطر 2022. ما اتجاه كل من السرعة المتجهة والتسارع للكرة أثناء صعودها في الهواء؟



Velocity direction	Acceleration direction

21.

Maryam used the graduated cylinder to measure the volume of an unknown liquid in the physics lab, the volume she measured was 46.0 mL. Then the teacher asked her to mix it with 1.20 L of water, what is the volume of the mixture in (L)?

استخدمت مريم المخبار المدرج لقياس حجم سائل غير معروف في مختبر الفيزياء، وكان الحجم (46.0) mL.
ثم طلبت منها المعلمة اضافته الى 1.20 L من الماء، ما الحجم النهائي للخليط بوحدة اللتر؟



a. 1.25 L

b. 1.66 L

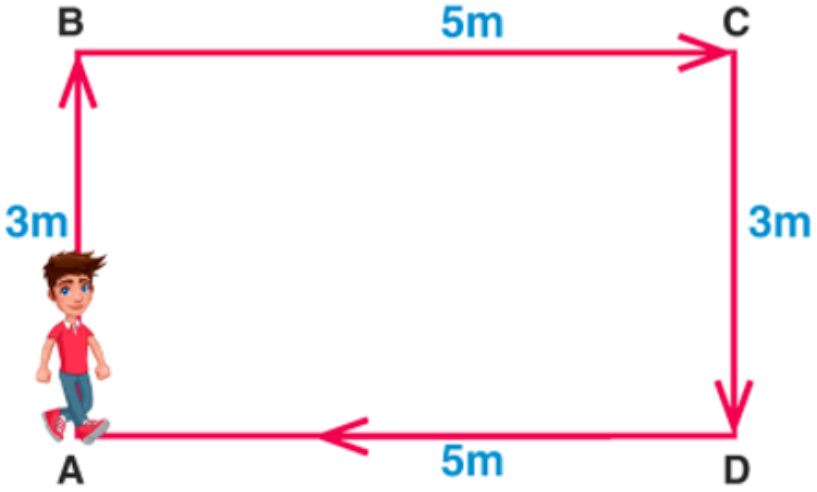
c. 5.8 L

d. 47.2 L

22.

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 D,C,B كما هو موضح بالشكل قبل ان يعود مجددا للنقطة A.
ما الازاحة والمسافة التي قطعها آدم على التوالي؟



a. 0m and 16m

b. 16m and 16m

c. 0m and 34m

d. 34m and 34m

23.

A coin is dropped from a building that is 25 m high. The coin is initially at rest, how long does it take the coin to hit the ground?

تسقط عملة معدنية من اعلى مبنى ارتفاعه 25 m، إذا بدأت العملة المعدنية الحركة من السكون، كم من الزمن تستغرق حتى تصطدم بسطح الأرض؟

a. 2.3 s

b. 5 s

c. 1.5 s

d. 10 s

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

24.

A worker in steel factory needs to write down the temperature of the steel rods using the SI unit, which one of the following units he should use?

يحتاج عامل في مصنع الفولاذ الى تسجيل درجة حرارة قضبان الفولاذ باستخدام الوحدة الأساسية، أي من الوحدات التالية يتوجب عليه استخدامها؟

a. kelvin

b. Fahrenheit

c. Celsius

d. Rankine

25.

A car slows down in a constant rate of 10.0 m/s². 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/s² ، إذا كانت سرعة السيارة 50.0 m/s، ما المسافة التي تقطعها السيارة قبل أن تتوقف كليا؟



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

a. 125m

b. 25 m

c. 100 m

d. 10 m

26.

A car starts from rest and goes down a hill with a constant acceleration of 5 m/s². 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/s². تصل السيارة بعد 5 s إلى قاع المنحدر. ما سرعة السيارة النهائية؟



a. 25 m/ s

b. 10 m/s

c. 50 m/s

d. 1 m/s

27.

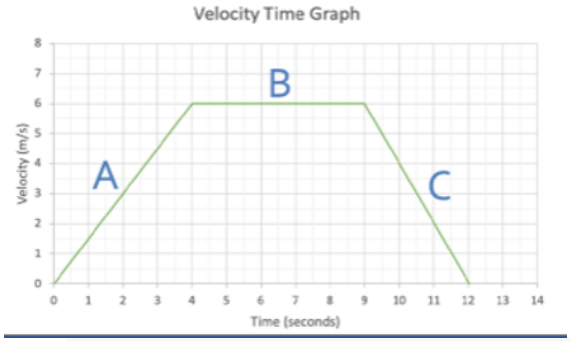
Yousef is learning to ride a bike. His father pushes him with a constant acceleration for 4.0 s, and then Yousef continues at 6.0 m/s for another 5.0 s before slowing down until he completely stopped after 3 s. What is Yousef's displacement in the first 9 s?

a. 42 m

b. 51 m

c. 30 m

d. 6 m

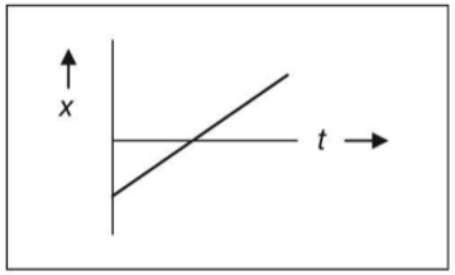


You may use the following equations	
$\Delta x = x_f - x_i$	$\bar{v} \equiv \frac{\Delta x}{\Delta t} = \frac{x_f - x_i}{t_f - t_i}$
$x = \bar{v}t + x_i$	$\bar{a} \equiv \frac{\Delta v}{\Delta t} = \frac{v_f - v_i}{t_f - t_i}$
$v_f = v_i + \bar{a}\,\Delta t$	$x_f = x_i + v_i t_f + \frac{1}{2}\bar{a}t_f^2$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

28.

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

أي من أشكال الحركة يمثله الرسم البياني (الموقع- الزمن) أدناه؟



a. Motion with zero acceleration

b. Motion with a constant positive acceleration

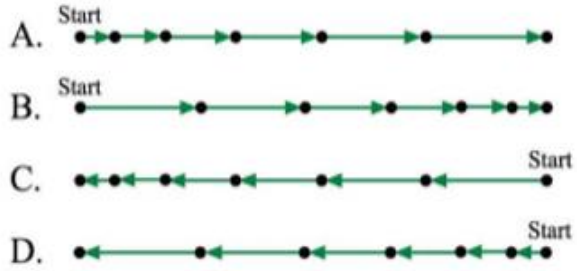
c. Motion with a constant negative acceleration

d. Motion with zero velocity

29.

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. A and C
b. B and D
c. A and D
d. B and C

30.

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. Quadratic relationship
b. Linear relationship
c. Inverse relationship
d. Can't be determined without solving the equation

31.

A stone is thrown upwards with initial velocity of 20 m/s, what is the maximum height that stone will reach?

يُقذف حجر للأعلى بسرعة ابتدائية تساوي 20 m/s، ما أقصى ارتفاع يصل إليه الحجر؟

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

a. 20.4 m

b. 1.02 m

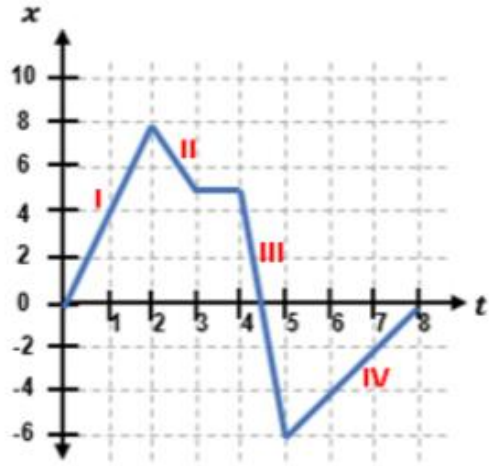
c. 3.50 m

d. 10 m

32.

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؟



a. Section III

b. Section I

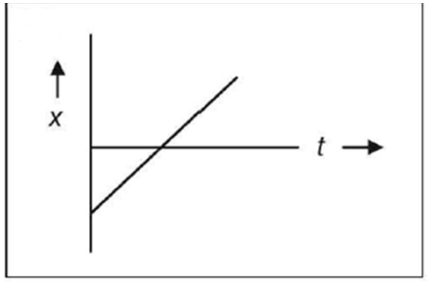
c. Section II

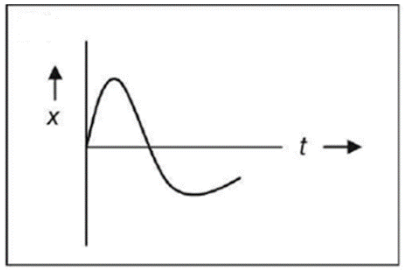
d. Section IV

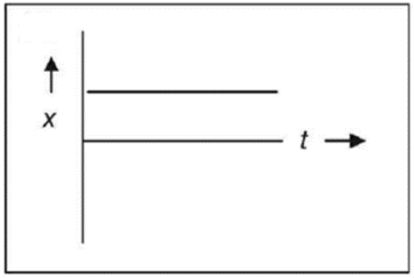
33.

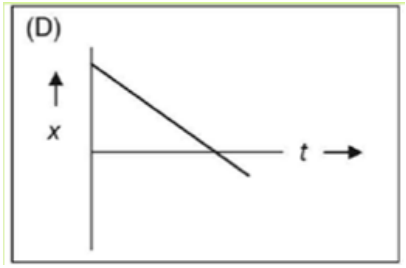
The position-time graphs of four different objects are shown below. If the positive direction is forward, then which object is moving backward at a constant velocity?

تبين الرسومات البيانية التالية العلاقة بين الموقع (x) والزمن (t) لأربعة أجسام مختلفة.
إذا كان الاتجاه الموجب للأمام. فأي هذه الأجسام يتحرك للخلف بسرعة ثابتة؟





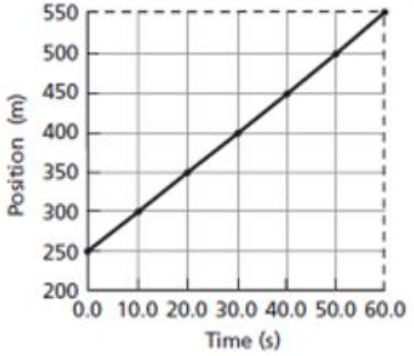




34.

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؟



a. 200 m

b. 400 m

c. 450 m

d. 250 m

35.

A car travels a distance in 6 s, if its initial velocity is 2 m/s and its acceleration is 2 m/s², how far does the car travel?

تقطع سيارة مسافة خلال 6 s، إذا كانت سرعتها المتجهة الابتدائية 2 m/s وتسارعها 2 m/s²، ما المسافة التي قطعتها السيارة؟

a. 48 m

b. 14 m

c. 24 m

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

36.

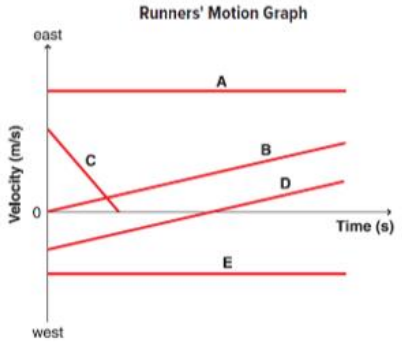
The velocity-time graph below represents the motion of 5 runners in a free marathon, which one of the runners changed his running direction during the marathon?

a. Runner D

b. Runner B

c. Runner C

d. Runner E



37.

Which formula is equivalent to the kinetic energy equation?

أي من الصيغ التالية مكافئة لصيغة معادلة الطاقة الحركية؟

$$E = \frac{1}{2}mv^2$$

$m = \frac{2E}{v^2}$

$m = \frac{1}{2}Ev^2$

$m = \frac{v^2}{2E}$

$m = 2Ev^2$

38.

- Newton provided an explanation for why objects fall ,he proposed that the objects fall because the object and Earth are attracted by a force. Which of the following represents what Newton said?

- ☐ A scientific model
- ☐ A scientific hypothesis
- ☐ A scientific theory
- ☐ A scientific law

39.

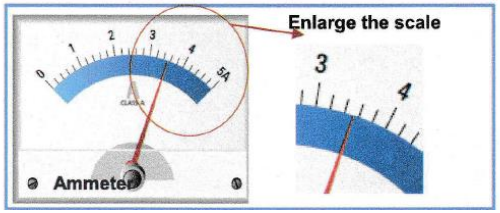
- A period of time is $(2.0 \times 10^{-4}s)$,which of the following is **true** for this period with prefixes?

- ☐ $0.20\ ms$
- ☐ $2.0\ \mu s$
- ☐ $0.20\ \mu s$
- ☐ $2.0\ ms$

40.

- Depending on the figure, what is the measure shown on the meter ? include the uncertainty .

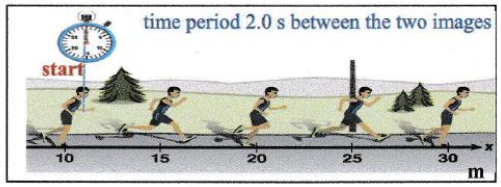
- ❒ $(3.6 \mp 0.2)\ A$
- ❒ $(3.4 \mp 0.2)\ A$
- ❒ $(3.6 \mp 0.1)\ A$
- ❒ $(3.4 \mp 0.1)\ A$



41.

-Depending on the figure, what is the displacement for the runner after (6.0 s) from the beginning of his movement?

- ❒ $+25\ m$
- ❒ $+15\ m$
- ❒ $-25\ cm$
- ❒ $-15\ m$



42.

- Depending on the equation :

$$[\ y = (3.0\ m/s) + (X \times 2.0\ s)\ ]$$

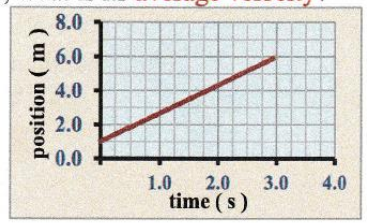
What is the name of the physical quantity represented by the X symbol and its unit ?

	the name of quantity X	the unit of quantity X
❒	Length	m
❒	Time	s
❒	Acceleration	$m\ s^{-2}$
❒	Velocity	$m\ s^{-1}$

43.

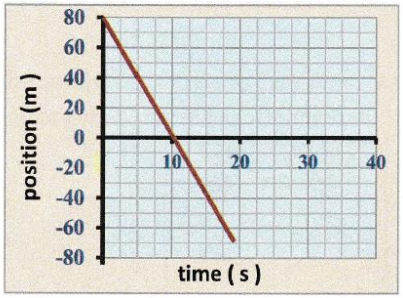
- Depending on the (position - time) graph for an object, what is its average velocity?

- ❒ $+2.0\ m/s$
- ❒ $-2.0\ m/s$
- ❒ $+1.7\ m/s$
- ❒ $-1.7\ m/s$



44.

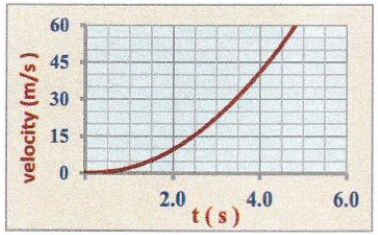
- Depending on the (position - time) graph for an object moving to the west.
What is the position of the object after (30 s) if it continues its motion with the same average velocity?



- ❒ $-240\ m$
- ❒ $-160\ m$
- ❒ $-110\ m$
- ❒ $-80\ m$

45.

- Depending on the graph for an object motion , what is the acceleration of the object between (2.0 s) to (4.0)?



- ❒ $0.0\ m/s^2$
- ❒ $+15\ m/s^2$
- ❒ $+11\ m/s^2$
- ❒ $+5.0\ m/s^2$

46.

10- A ball that starts at rest is in free fall for (4.0 s). What is the ball`s displacement after (2.1 s) ?

- ❒ $-78\ m$
- ❒ $-22\ m$
- ❒ $-39\ m$
- ❒ $-11\ m$

47.

The final position of a ball motion is given from the following equation

$$x_f = +0.70 + 3.0\,t + 2.0\,t^2$$

(Physical quantities in the equation measured by international units)

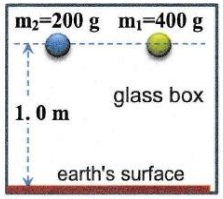
What are the initial position and initial velocity for the ball?

	initial velocity	initial position
❒	$+2.0\ m/s$	$+0.70\ m$
❒	$+3.0\ m/s$	$+0.70\ m$
❒	$+2.0\ m/s$	$+3.0\ m$
❒	$+3.0\ m/s$	$+3.0\ m$

48.

12-There are two balls in a glass box with no air on the ground as shown in the figure. If the two balls start falling together, which of the following is correct for the acceleration of the two balls?

- ❒ the acceleration for m_1 is greater than it is for m_2 .
- ❒ the acceleration for m_2 is greater than it is for m_1 .
- ❒ the acceleration for m_2 and m_1 is equal .
- ❒ the acceleration for m_1 equals half of it is for m_2



49.

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

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

50.

-Depending on the particle model in the figure for the motion of a vehicle , which of the following is **true** for the vehicle`s motion?

- ❒ the vehicle moved at constant velocity
- ❒ the vehicle moved faster
- ❒ the vehicle moved slower
- ❒ the vehicle started to move faster and then slower



51.

A _____ has been tested and supported many times.

a. scientific theory
b. scientific law
c. scientific hypothesis
d. scientific model

52.

What is the SI base unit of temperature?

a. Celsius
b. Fahrenheit
c. Kelvin
d. Joule

53.

1 millisecond (1 ms) equals:

a. 10^{-3} s
b. 10^{-6} s
c. 10^{3} s
d. 10^{6} s

54.

❖ According to the table next to the measurement of the mass of a wooden box by four students each with three attempts to measure, if you know that the real mass of the box is (2.5 kg) answer items (6 and 7).

Student	1st attempt	2nd attempt	3rd attempt
Mahmoud	2.3 kg	2.5 kg	2.7 kg
Hamdan	2.2 kg	2.6 kg	2.9 kg
Adam	2.8 kg	2.9 kg	2.8 kg
Sultan	2.6 kg	3.3 kg	2.9 kg

- Which student has the most precise measurements?

a. Mahmoud
b. Hamdan
c. Adam
d. Sultan

- Which student has the most accurate measurements?

a. Mahmoud
b. Hamdan
c. Adam
d. Sultan

55.

What is the number of significant digits in the measurement 10.005m?

a. 2
b. 3
c. 4
d. 5

56.

What is the acceleration of a vase dropped from a window of a tower in Abu Dhabi?

a. $0.0\,m/s^2$
b. $2.2\,m/s^2$
c. $9.8\,m/s^2$
d. $77.6\,m/s^2$

57.

The magnitude of a vector represents its ..... .

a. thickness
b. length
c. direction
d. color

58.

The final position minus the initial position is the ..... .

a. average velocity.
b. motion diagram.
c. time interval.
d. displacement

59.

Which of the following is a scalar quantity?

a. The time
b. The acceleration
c. The displacement
d. The force

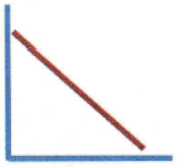
60.

According to Boyles' law, PV = constant. If a graph is plotted with the pressure P against the volume V, the graph would be like:

a. 

b. 

c. 

d. 

61.

The instantaneous acceleration of an object is ..... .

a. the rate of change in velocity at an instant of time.

b. the rate of change of position at an instant of time.

c. the rate of change of distance at an instant of time.

d. the rate of change of time at an instantaneous position.

62.

(Free fall) is the condition in which ..... .

a. the motion of a body is due to gravity alone, when air resistance is applicable.

b. the motion of a body is due to velocity alone, when air resistance is negligible.

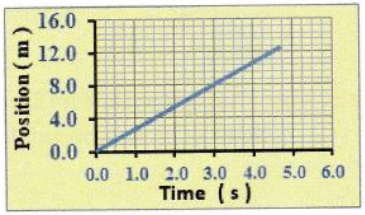
c. the motion of a body is due to gravity alone, when air resistance is maximized.

d. the motion of a body is due to gravity alone, when air resistance is negligible.

63.

According to the graph, what does the slope of the line equal ?

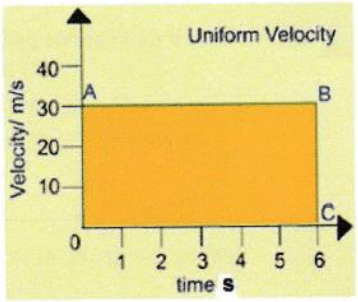
a. Acceleration
b. Velocity
c. Time
d. Displacement



64.

What does the area of rectangle represent?

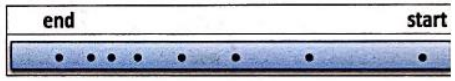
a. Time
b. Displacement
c. Velocity
d. Acceleration



65.

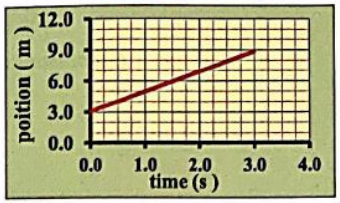
3-Depending on the motion of the vehicle in the figure, which of the following is true for the vehicle`s motion ?

- ☐ the car moved at constant velocity
- ☐ the car moved faster
- ☐ the car moved slower
- ☐ the car started to move faster and then slower



66.

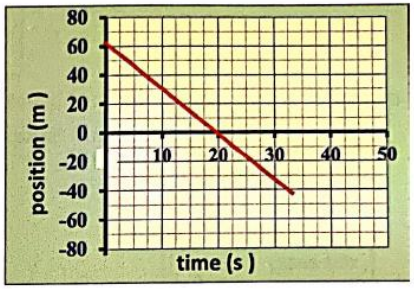
- Depending on the (position - time) graph for an object, what is its average velocity?



- ❒ $+2.0\ m/s$
- ❒ $-2.0\ m/s$
- ❒ $+3.0\ m/s$
- ❒ $-3.0\ m/s$

67.

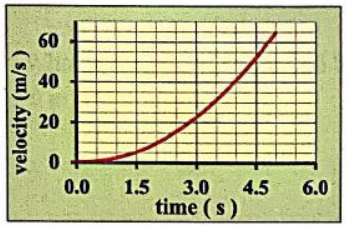
- Depending on the (position - time) graph for the motion of a car moving to west.
What is the position of a car after (50 s) if it continues its motion with the same average velocity?



- ❒ $-210\ m$
- ❒ $-150\ m$
- ❒ $-110\ m$
- ❒ $-90\ m$

68.

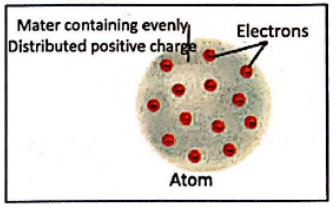
- Depending on the graph for an object motion , what is the acceleration of the object from (1.5 s) to (4.5).



- ❒ $18\ m/s^2$
- ❒ $15\ m/s^2$
- ❒ $5.0\ m/s^2$
- ❒ $0.0\ m/s^2$

69.

1- The figure shows the structure of the atom as conceived by Thomson.
What does the figure represent ?



- ❒ Theory of the atom
- ❒ Model of the atom
- ❒ Hypothesis of the atom
- ❒ Law of the atom

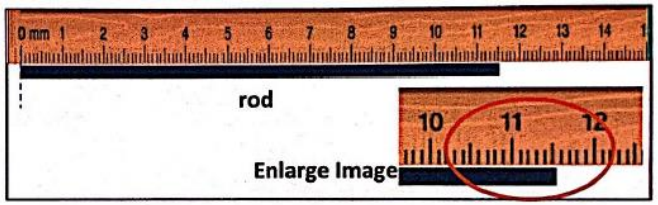
70.

- A period of time is $(4.0 \times 10^{-3} s)$,which of the following is true for this period with prefixes?

- ☐ $4.0\ ns$
- ☐ $4.0\ ks$
- ☐ $4.0\ \mu s$
- ☐ $4.0\ ms$

71.

Depending on the figure, what is the measurement of the rod length including the uncertainty?



- ☐ $(11.55 \mp 1.0)\ mm$
- ☐ $(11.55 \mp 0.5)\ mm$
- ☐ $(115.5 \mp 0.5)\ mm$
- ☐ $(115.5 \mp 1.0)\ mm$

72.

Depending on the equation $\left[y = \left(6.0\ \frac{m}{s}\right) + \left(3.0\ \frac{m}{s^2}\right) x\right]$

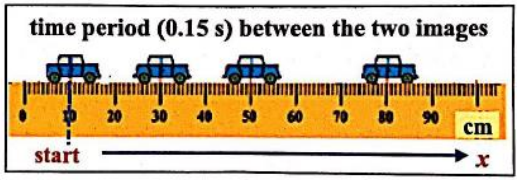
- What is the name of the physical quantity represented by the x symbol and its unit ?

	the name of quantity x	the unit of quantity x
☐	Time	min
☐	Length	m
☐	Time	s
☐	Length	cm

73.

· Depending on the figure, what is the displacement for the car after (0.30 s) from the beginning of its movement?

- ☐ $+70\ cm$
- ☐ $+50\ cm$
- ☐ $+80\ cm$
- ☐ $+40\ cm$



74.

The final position of a ball motion is given from equation

$$[x_f = +0.50 + 2.0\,t + 4.0\,t^2]$$

(Physical quantities in the equation measured by international units) .

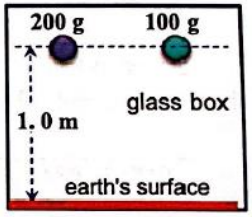
What are the initial position and acceleration for a ball?

	Acceleration	Initial position
☐	$+4.0\ m/s^2$	$+0.50\ m$
☐	$+8.0\ m/s^2$	$+0.50\ m$
☐	$+4.0\ m/s^2$	$+2.0\ m$
☐	$+8.0\ m/s^2$	$+2.0\ m$

75.

!-There are two balls in glass box with no air on the ground as shown in the figure. If the two balls start falling together,which of the following is correct for the two balls?

- ☐ the ball (100 g) reaches the ground surface first.
- ☐ the ball (200 g) reaches the ground surface first.
- ☐ the two balls reach the ground surface together.
- ☐ neither ball will reach the ground surface .



76.

A _____ is a statement about what happen in nature and seem to be true in all the time.

a. scientific theory
b. scientific law
c. hypothesis
d. model

77.

What is the base unit of time?

a. Second
b. Minute
c. Hour
d. Day

78.

What is the number of significant digits in the measurement 2.002m?

a. 2
b. 3
c. 4
d. 5

79.

Decide which of the following prefixes is the biggest: centi-, milli-, deci-, or kilo-.

a. centi-
b. milli-
c. deci-
d. kilo-

80.

The _____ variable is the factor that is changed or manipulated; the dependent variable is the factor that depends on the independent variable.

a. control
b. independent
c. hypothesis
d. theory

81.

According to the table next to the measurement of the length of a book by four students each with three attempts to measure, if you know that the real length of the book (30.3cm) answer items (6 and 7).

Student	1st attempt	2nd attempt	3rd attempt
Sheikha	33.9cm	31.1cm	29.0cm
Awatef	30.2cm	30.1cm	30.4cm
Aysha	32.5cm	32.4cm	32.5cm
Laila	32.3cm	29.8cm	34.1cm

Which student has the most accurate measurements?

a. Sheikha
b. Awatef
c. Aysha
d. Laila

Which student has the most precise measurements?

a. Sheikha
b. Awatef
c. Aysha
d. Laila

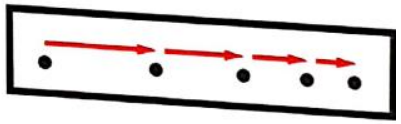
82.

- According to the law, $\frac{X}{Y}$ = constant. If a graph is plotted with X against Y, the graph would be a(n):

a. straight line
b. curved line
c. wavy line
d. circle

83.

❖ The next figure to a toy car movement, according to the figure, answer items (8 and 9).



What is this figure called?

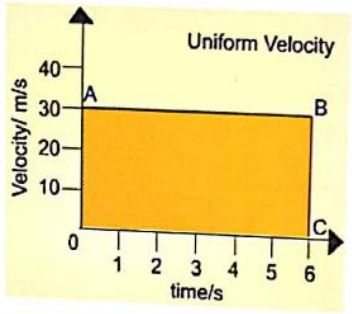
a. All images
b. Magnifying form
c. Sequential images
d. Particle model

- Which is the correct description of the car movement?

a. It does not move
b. Its speed decreases
c. Its speed is constant
d. Its speed increases

84.

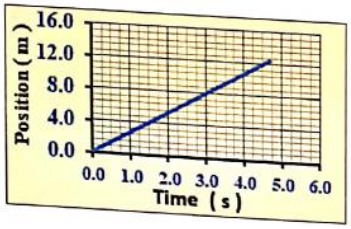
- What does the area of rectangle represent?
a. acceleration
b. velocity
c. time
d. displacement



85.

❖ According to the (position - time) graph of an ant moves on the x- axis, answer items (12 and 13).

· What time did the ant reach a distance of 8.0m from the starting point?
a. 6.0s
b. 5.0s
c. 3.0s
d. 1.0 s



- What does the slope of the line equal?
a. acceleration
b. velocity
c. time
d. displacement

86.

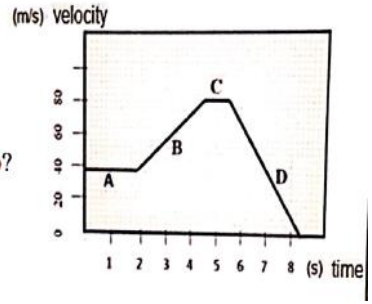
1- The change in velocity during a measurable time interval, divided by the time interval, is the _____.
a. instantaneous velocity
b. average velocity
c. instantaneous acceleration
d. average acceleration

87.

❖ According to the next graph, answer items (14 and 15).

14- At which interval of time (A,B,C,D) the acceleration is positive?
a. A
b. B
c. C
d. D

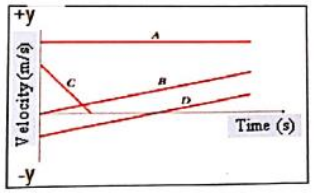
15- At which interval of time (A,B,C,D) the acceleration is zero?
a. A and C
b. B and C
c. C and D
d. A and B



88.

2- Given a graph of velocity v. time, what does a horizontal line represent?

a. The object's acceleration is positive.
b. The object is moving at constant velocity.
c. The object's acceleration is negative.
d. The object is standing still.



89.

3- Which formula represents final velocity of an object with average acceleration?

a. $v_f = v_i \div a\Delta t$
b. $v_f = v_i \times a\Delta t$
c. $v_f = vi - a\Delta t$
d. $v_f = v_i + a\Delta t$

90.

4- The acceleration due to Earth's gravity is:

a. 9.8 m/s^2
b. 98 m/s^2
c. 9.8 ft/s^2
d. 9.8 mi/s^2

91.

5– Which of the following is NOT an example of accelerated motion?

a. a boulder falling off of a cliff in a straight path
b. an airplane taking off down a straight runway
c. a bicyclist moving in a straight line at constant speed
d. a ball being thrown straight up

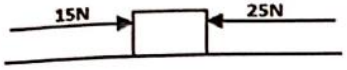
92.

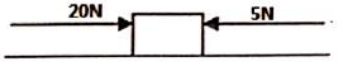
6- The instantaneous acceleration of an object is

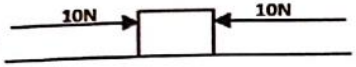
a. the rate of change in velocity at an instant of time.
b. the rate of change of position at an instant of time.
c. the rate of change of acceleration at an instant of time.
d. the rate of change of time at an instantaneous position.

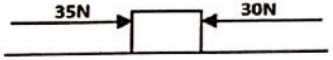
93.

7- Which of the following system of forces provides the block the highest net force? (Note: vectors not drawn to scale.)

a. 

b. 

c. 

d. 

94.

:- For the period of time($4.0\mu s$),which of the following is true for this period without prefixes?

- ☐ $4.0 \times 10^{-3}s$
- ☐ $4.0 \times 10^{-6}s$
- ☐ $4.0 \times 10^{-9}s$
- ☐ $4.0 \times 10^{+9}s$

_____

_____

95.

According to the scientific method, if the hypothesis is not supported, which step should be done again?

A. **Modify the hypothesis and form a new one**

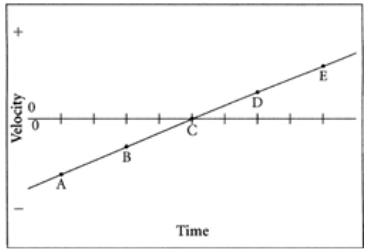
B. **Tests the hypothesis again**

C. **Analyze data**

D. **Draw different conclusion**

96.

What happened to the motion of the object at point C ?



A. **The object stopped to change the direc then continue moving in same speed**

B. **Direction remains the same, but the object stopped**

C. **Direction is changed and the object accelerated**

D. **Both direction and velocity remain the same**

97.

If the Emirati Hope Probe orbited Mars one full cycle, what is the probe's distance traveled and displacement ?

A. Distance is circumference of the circular orbit while displacement is zero.

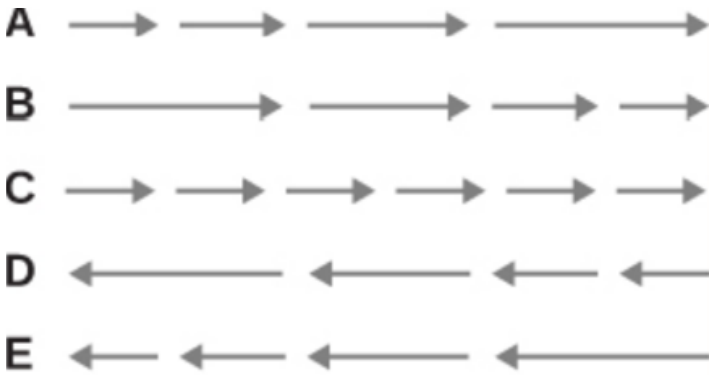
B. Distance and displacement both are zero

C. Distance is zero while the displacement is circumference of the circular orbit.

D. Distance and displacement both are equal to circumference of the circular orbit.

98.

Which one of the motion diagrams below represents a car speeding up in the negative direction?



99.

A dog runs down a straight path with an average velocity of **4.00 m/s** For **2.00 min.** What is its final position, taking his initial position to be zero?

A. 480 m

B. 240 m

C. 120 m

D. 8 m

_____

_____

_____

_____

_____

$x = \bar{v}t$

$v = v_0 + at$

$x = v_0 t + \frac{1}{2} at^2$

$v^2 = {v_0}^2 + 2ax$

100.

A racing cart is moving on a **200 m** long ramp. If its initial velocity is **10.0 m/s** and it accelerates at **2.00 m/s,** how long does it take to travel the **200 m** up the ramp?

A. 10. 0 s

B. 5.0 s

C. 15.0 s

D. 20.0 s

_____

_____

_____

_____

$\Delta x = v_i t + \frac{1}{2} at^2$

$v_f = v_i + at$

$v_f^2 = v_i^2 + 2a\Delta x$

101.

The nuclear reactor computer simulation is an example of:

A. Models

B. Hypothesis

C. Scientific Law

D. Scientific Theory

102.

A biker rides north for 50 m from his starting position, then turns and bikes back south 70 m. What is his net **displacement**?

A. 20 m south

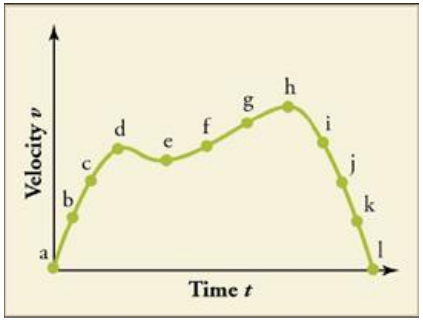
B. 20 m north

C. 120 m south

D. 120 m north

103.

In the velocity- time graph below, during which periods is the object slowing down and speeding up?



A. It is slowing down between d – e and then after h. And it is speeding up between a- d and e- h.

B. It is slowing down between d-e And it is speeding up between a-d and e-h

C. It is slowing down between a-d And e-h. it is speeding up between d-e and then after i

D. It is slowing down between a-d and e-h. it is speeding up between d-e and then after i

104.

Mohammad drove to **Expo 2020** with an average speed of **V m/s** and he traveled distance **X** in time equals **t.**

If he drives back home with the same speed but through a path two times longer than the first path equals **2X** , how long is the return trip ?

_____

_____

_____

t/2

4t

t/4

2t

105.

A radar detected a car moving in speed of **200 Km/hr,** what is the speed of the car in meters per second

_____

_____

_____

_____

_____

34.7 m/s

200 x 10^3 m/s

2083 m/s

55.6 m/s

106.

A race horse coming out of the gate accelerates from rest to a velocity of **15.0 m/s** due west in **1.80 s.** What is its average acceleration?

–8.33 m/s²

8.33 m/s²

–27 m/s²

27 m/s²

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

$$v = v_0 + at$$

$$x = v_0 t + \frac{1}{2} at^2$$

$$v^2 = {v_0}^2 + 2ax$$

107.

Mohammad wants to measure the rate in which ice cubes with different volumes melt in constant room temperature, based on the given information determine what is the dependent and independent variables?

a. The volume is the dependent variable while the time is the independent variable.

الحجم هو المتغير التابع بينما الوقت هو المتغير المستقل

b. هذه هي الإجابة الصحيحة

The volume is the independent variable while the time is the dependent variable.

الحجم هو المتغير المستقل بينما الوقت هو المتغير التابع

c. The room temperature is the dependent variable while the time is the independent variable.

درجة حرارة الغرفة هي المتغير التابع بينما الوقت هو المتغير المستقل

d. The volume is the dependent variable while the room temperature is the independent variable.

الحجم هو المتغير التابع بينما درجة حرارة الغرفة هي المتغير المستقل

108.

A ball is thrown downward from the top of a cliff with an initial speed of **12 m/s.** If the ball hits the ground after **2.0 s,** what is the height of the cliff?

44 m

4 m

24 m

2.4 m

$$\Delta y = v_i t - \tfrac{1}{2} g t^2$$

$$v_f = v_i - gt$$

$$v_f^2 = v_i^2 - 2g\Delta y$$

109.

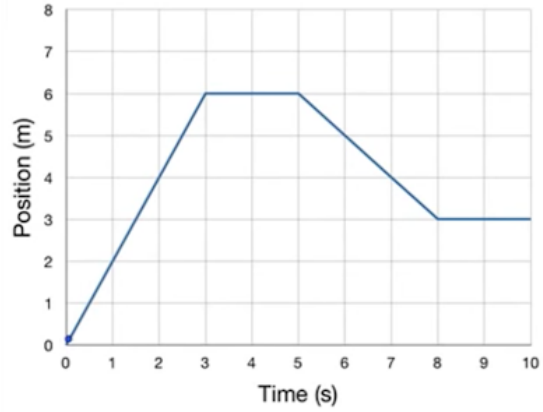
Using the position-time graph, what is the runner's average speed for the whole 10 s period?

3.0 m/s

1.2 m/s

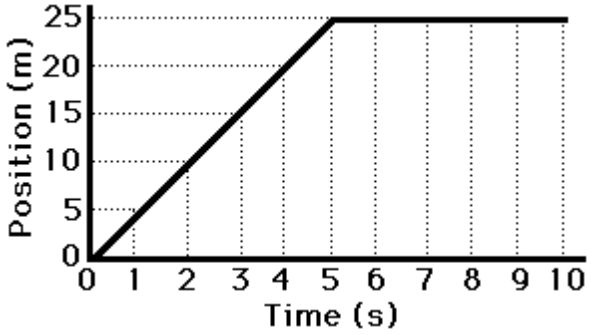
0.3 m/s

0.6 m/s



110.

A motion of a bus is represented in the graph below, which statement describes the motion of the bus?



a. The bus started to move from stationary with constant speed of 5 m/s for 5 seconds then it stopped.
بـدأت الحافلة بالتحرك من السكون بسرعة ثابتة (5 m/s لمدة 5 ثواني ثم توقفت

b. The bus started to move from stationary with speed of 5 m/s then it speeded up to 25 m/s
بـدأت الحافلة بالتحرك من السكون بسرعة(5 m/s ثم زادت سرعتها الى (25 m/s)

c. The bus started to move at t= 5 s
بدأت الحافلة في التحرك عند t = 5 s

d. The bus started to move from stationary with speed of 25 m/s then it stopped after 5 seconds
بدأت الحافلة بالتحرك من السكون بسرعة(25 m/s ثم توقفت بعد 5 ثوان

111.

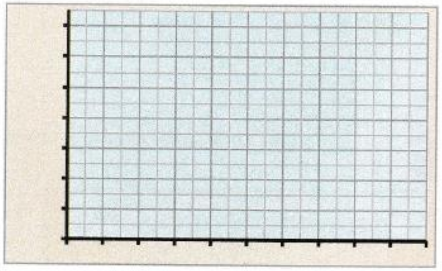
The following table shows Maryam's positions and times when she moved to the north inside her school on a straight line.

Time(s)	0	20	40	60	80	100	120	140
Position (m)	0	10	20	30	40	50	60	70

Answer (19 ,20 , 21)

19-Draw a position-time graph to represent Maryam's motion in the school.

20-Calculate the average velocity of Maryam using the position-time graph.



21-Calculate the average velocity of Maryam in (m/s) if she reaches back in (2.0) minutes.

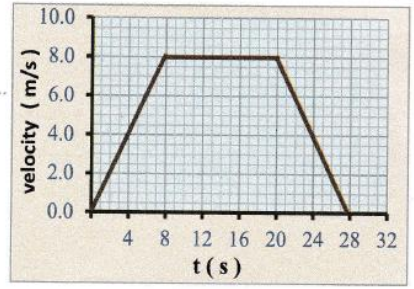
112.

Depending on the (velocity - time) graph for the motion made by Rashed on a bicycle, Rashed began his motion to the north.

Answer (22 ,23 , 24)

22 - What is the time interval that Rashed moves at a constant velocity ?

.....



23 - Calculate the acceleration of Rashed's motion during the time interval (20 s to 24 s).

.....

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.....

.....

24-Calculate the magnitude of total displacement of Rashed from (0.0s) to (28 s).

.....

.....

.....

.....

113.

16- Mohammad forms a hypothesis: (When the height from Earth increases, the acceleration of Earth increases). Identify the independent variable and the dependent variable.

- **The independent variable :** .....
- **The dependent variable:** .....

17- The density of a body is the mass of the body divided by its volume.

- Write a formula of the density.

.....

.....

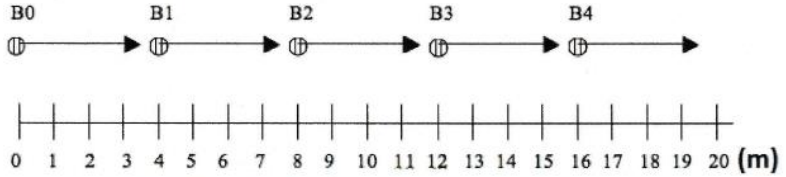
- What is the SI unit of density?

.....

.....

- Is the unit of density a basic unit or a derived unit? .....

18- Given below is the motion diagram of a small ball rolling straight on a frictionless surface. The time interval between successive positions is (2s).



- Draw the line of a (position-time) graph to represent the motion of the ball .

- What is the displacement of the ball after (8s)?

.....

- Calculate the speed of the ball.

.....

.....

.....

.....

.....

114.

19- The graph represents the (velocity-time) variation of a spider's motion.

- **What is the velocity of the spider at (2.0s)?**

.....

- **What is the acceleration of the spider $t = 1.0$s and $t = 3.0$s.?**

.....

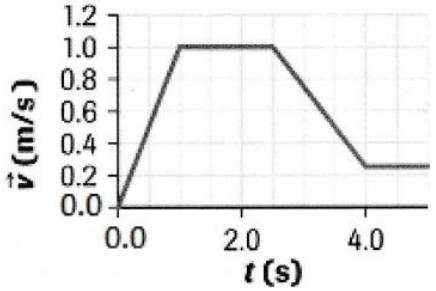
- **Calculate the acceleration of the spider between $t = 0.0$ s and $t = 1.0$ s.**

.....

.....

.....

.....



20- A ball is thrown vertically upward with a speed of (2.0 m/s) from the ground.

- **Calculate the time in which the ball will reach the ground.**

.....

.....

.....

- **What is the velocity of the ball when reaching the ground.**

.....

108.

The graph showing changes in the length of spring for different masses hanging on its free side .

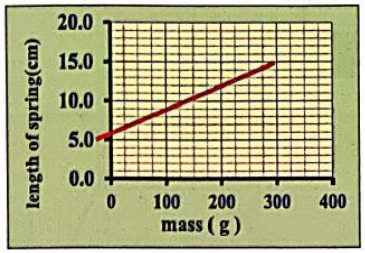
Answer questions (16 ,17 , 18)

16- What is the name of the physical quantity that represents:

- Independent variable? .....
- Dependent variable ? .....

17-What is the original length of the spring ?

.....



18- How much mass needs to be suspended in the spring for it to be longer than its original length of (0.10m)

_____

_____

109.

- Ahmad starts for his school in the morning. There is a straight road that connects his house to the school, the values for his position (distance from his home) are listed with each time interval in the table below :

Time(s)	0	30	60	90	120	150	180	210
Position (m)	0	50	100	150	200	250	300	350

answer questions (19 ,20 , 21)

19–Draw a position-time graph to represent Ahmad's motion from home to school.

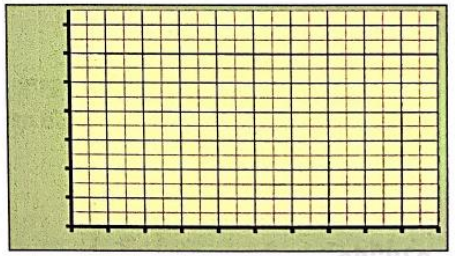
20–Calculate the average velocity of Ahmad using the position-time graph.

.....

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21-Calculate the average velocity of Ahmad on a return trip home if he reaches back home in (5.0) minutes.

.....

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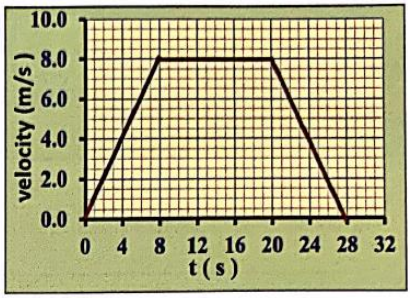
110.

– Depending on the (velocity - time) graph for the motion of Rashid on a bicycle, Rashid began his motion to the east.

Answer questions (22 ,23 , 24)

22 - What is the time interval that Rashid moves at a constant velocity ?

.....



23 - Calculate the acceleration of Rashid's motion during the time interval (20 s to 28 s).

.....

.....

.....

.....

.....

24-Calculate the total displacement of Rashid from (0s) to (28 s).

.....

.....

.....

.....

111.

16- Complete the building of the chart organizer.

Place the appropriate item in its proper place.

Use the following words:

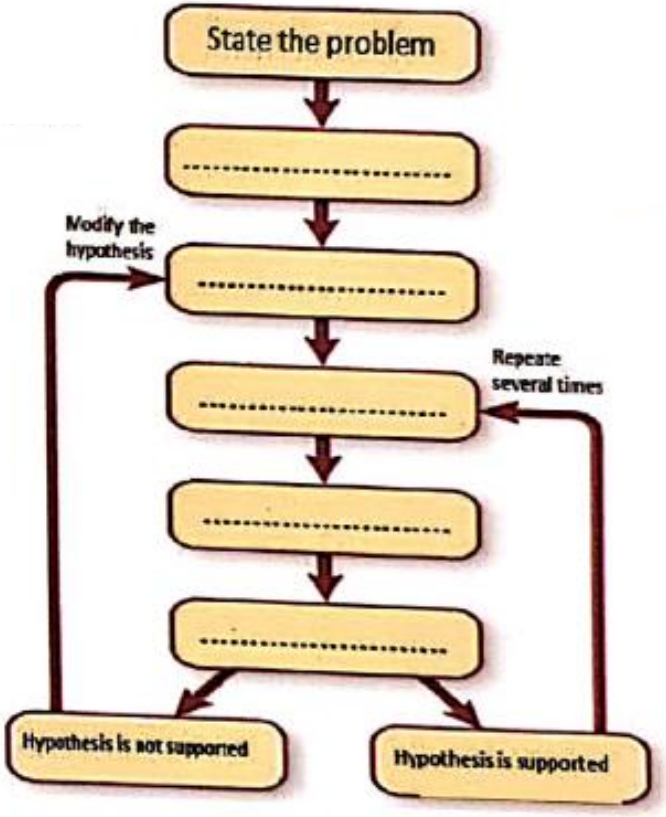
Test the hypothesis

Analyze data

Gather information

Form a hypothesis

Draw conclusion



112.

17- Find distance traveled by a vehicle in 12 minutes, if its speed is 30 km/h?

.....

.....

.....

18- The speed of a body is the distance traveled per unit time.

a. What is the SI unit of speed?

.....

b. Is the unit of speed a basic unit or a derived unit?

....

19-Mahmoud moved 100 meters northward and then moved 140 meters southward.

Find the resultant displacement of Hamdan?

.....

.....

.....

20- Calculate the time needed a scooter accelerating at 0.400 m/s^2 to go from rest to a speed of 4.00 m/s?

.....

.....

.....

113.

.....

.....

21-According to the graph (position-time) of two children Mohammad and Salem beginning to move together at the same time from two different positions.

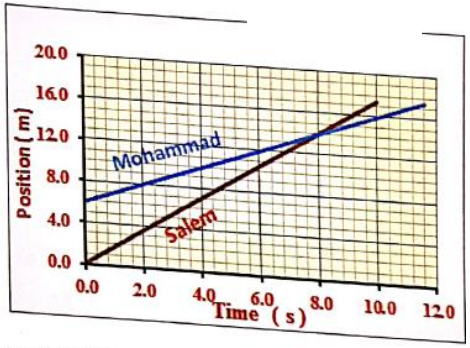
a. What is the distance between Mohammad and Salem at the beginning?

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b. Determine both the time and the position where the two children meet?

- Time: .....

- Position: .....



c. Find the average velocity of Mohammad.

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22- Hamdan throws a ball vertically upward with a speed of 20 m/s.

a. What is the speed of the ball when it is at the maximum height?

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b. What is the acceleration of the ball?

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114.

16- What does it mean to have " seconds squared (s^2) " in the denominator of the unit for acceleration due to gravity?

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17- Does mass affect the acceleration at which an object falls in free fall? Justify your answer with a specific example. (Neglect air resistance)

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18- A woman tosses a ball straight upward at (25 m/s). (Neglect air resistance)

How long a time is the ball in the air?

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115.

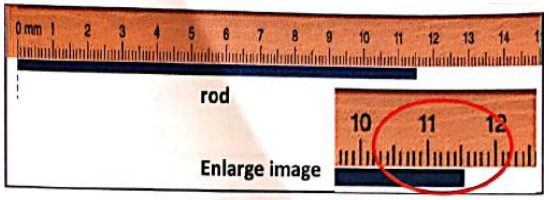
Depending on the figure.
Answer questions (16,17)

16- Write the length of the rod by(cm) unit including three significant figures .

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17- Write the length of the rod by (mm) unit including uncertainty value for the measurement .

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116.

A car has a velocity of ($72\ km/hr$) on Emirate road.

18- Calculate the velocity of the car in (m/s). (**Show the steps of solution**)

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117.	118.