

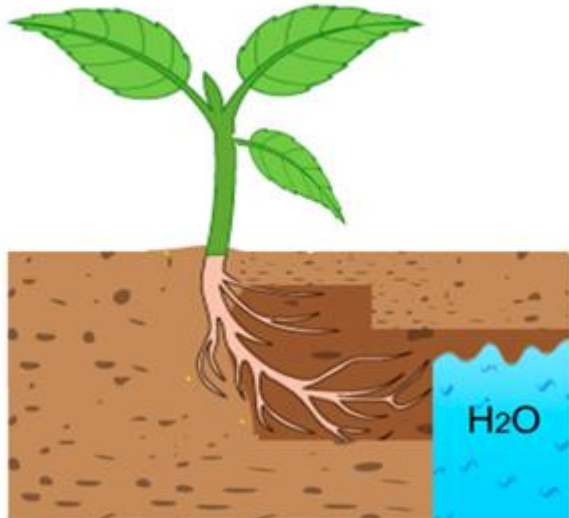
NSC Past Year Questions: Biology (Easy – MCQ)

The following figure shows the response stimulus of a plant root.

Gambarajah berikut menunjukkan tindak balas rangsangan akar tumbuhan.

Based on the figure, what is the type of stimulus exhibited by the plant root?

Berdasarkan gambarajah, apakah jenis rangsangan yang ditunjukkan oleh akar tumbuhan tersebut?



A.	Geotropism <i>Geotropisme</i>
B.	Nastic response <i>Tindak balas nastic</i>
C.	Hydrotropism <i>Hydrotropisme</i>
D.	Phototropism <i>Fototropisme</i>
Answer: C	


$$ut + \frac{1}{2} at$$
$$v = u + at$$
$$w = F \cdot s$$

NSC Past Year Questions: Biology (Easy – FITB)

In the human body, the process of aerobic respiration produces CO₂ and _____ as a waste product.

Dalam tubuh manusia, proses pernafasan aerobik menghasilkan CO₂ dan _____ sebagai produk sisa.

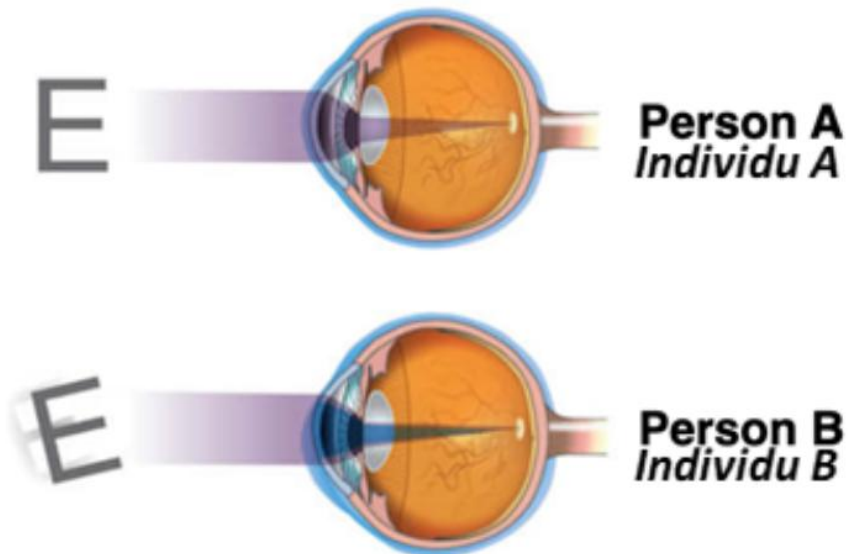
Answer: water / air / H₂O


$$ut + \frac{1}{2} at^2$$
$$v = u + at$$
$$w = F \cdot s$$

NSC Past Year Questions: Biology (HOTS – MCQ)

Based on the following figure, what can Person B do to correct his vision as Person A?

Berdasarkan gambarah berikut, apakah yang boleh dilakukan oleh Individu B untuk memperbetul pandangannya seperti Individu A?



- | | |
|----|---|
| A. | Use binoculars for vision.
<i>Melihat menggunakan binokular.</i> |
| B. | Wear glasses with sunken lenses.
<i>Memakai cermin mata dengan kaca mata cekung.</i> |
| C. | Wear glasses with convex lenses.
<i>Memakai cermin mata dengan kaca mata cembung.</i> |
| D. | Wear glasses with cylinder lenses.
<i>Memakai cermin mata dengan kaca mata silinder.</i> |

Answer: D

$$ut + \frac{1}{2} at$$
$$v = u + a$$
$$w = F \cdot s$$

NSC Past Year Questions: Biology (HOTS – MCQ)

The following are the four phases of mitosis.
Yang berikut merupakan empat fasa mitosis.

Prophase → X → anaphase → telophase
Profasa → X → anafasa → telofasa

What happens during X?
Apakah yang berlaku semasa X?

A.	All chromosomes align in one plane. <i>Semua kromosom tersusun pada satu satah.</i>
B.	The nuclear envelope breaks down. <i>Sampul nuklear pecah.</i>
C.	Kinetochores appear at the centromeres. <i>Kinetokor muncul pada sentromer.</i>
D.	Chromosomes arrive at the opposite poles. <i>Kromosom tiba di kutub bertentangan.</i>

Answer: A

$\frac{1}{2} at$
 $u + a$
 $w = F \cdot s$

NSC Past Year Questions: Biology (WOW – MCQ)

Why does a plant stomata close at night?

Mengapakah stomata tumbuhan tertutup pada waktu malam?

- | | |
|-----------|---|
| A. | Guard cells become turgid at night.
<i>Sel pengawal menjadi segar pada waktu malam.</i> |
| B. | Photosynthesis does not occur at night.
<i>Fotosintesis tidak berlaku pada waktu malam.</i> |
| C. | Water enters guard cells at night.
<i>Air memasuki sel pengawal pada waktu malam.</i> |
| D. | Plants do not undergo respiration at night.
<i>Tumbuhan tidak melakukan proses respirasi pada waktu malam.</i> |

Answer: B

$$ut + \frac{1}{2} at^2$$
$$v = u + at$$
$$w = F \cdot s$$

NSC Past Year Questions: Biology (WOW – MCQ)

The figure shows a plant experiencing water loss.
Rajah menunjukkan tumbuhan mengalami kehilangan air.



Which statement is **TRUE** about this type of water loss?

*Pernyataan yang manakah **BENAR** tentang jenis kehilangan air ini?*

- | | |
|-----------|--|
| A. | Occurs during the day
<i>Berlaku pada waktu siang</i> |
| B. | Occurs when humidity is low
<i>Berlaku apabila kelembapan udara rendah</i> |
| C. | Mostly occurs at the edges of leaves
<i>Kebanyakannya berlaku pada pinggir daun</i> |
| D. | It is a type of dew
<i>Ia adalah sejenis embun</i> |

Answer: C

$$ut + \frac{1}{2} at^2$$
$$v = u + at$$
$$w = F \cdot s$$

NSC Past Year Questions: Chemistry (Easy – MCQ)

What is the similarity between endothermic reaction and exothermic reaction?

Apakah persamaan bagi tindak balas endotermik dan tindak balas eksotermik?

- | | |
|-----------|---|
| A. | Require energy to start reaction.
<i>Memerlukan tenaga untuk memulakan tindak balas.</i> |
| B. | Takes a long time to react.
<i>Memerlukan masa yang lama untuk bertindak balas.</i> |
| C. | Heat is released to the surrounding.
<i>Haba dibebaskan ke persekitaran.</i> |
| D. | Involves physical and chemical changes.
<i>Melibatkan perubahan fizikal dan kimia.</i> |

Answer: A


$$ut + \frac{1}{2} at^2$$
$$v = u + at$$
$$w = F \cdot s$$

NSC Past Year Questions: Chemistry (Easy – FITB)

The Periodic Table of Element is arranged in a systematic manner based on the increase of _____ numbers.

Jadual Berkala Unsur disusun secara sistematik berdasarkan pertambahan nombor _____.

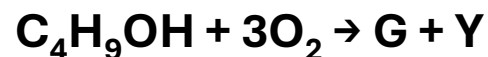
Answer: proton


$$ut + \frac{1}{2} at^2$$
$$v = u + at$$
$$w = F \cdot s$$

NSC Past Year Questions: Chemistry (HOTS– MCQ)

The following equation shows a complete combustion of butanol to form gas G and compound Y. What is the name of gas G and compound Y?

Persamaan berikut menunjukkan pembakaran butanol yang lengkap untuk membentuk gas G dan sebatian Y. Apakah nama gas G dan sebatian Y?



- | | |
|-----------|--|
| A. | Carbon monoxide and nitrogen
<i>Karbon monoksida dan nitrogen</i> |
| B. | Hydrogen and carbon dioxide
<i>Hidrogen dan karbon dioksida</i> |
| C. | Carbon dioxide and water
<i>Karbon dioksida dan air</i> |
| D. | Nitrogen and water
<i>Nitrogen dan air</i> |

Answer: C

$\frac{1}{2} at$
 $u + a$
 $w = F \cdot s$

NSC Past Year Questions: Chemistry (HOTS – MCQ)

The enthalpy of combustion of glucose is -2800 kJ/mol . How many moles of glucose need to be burned to produce 1000 kJ of heat?

Entalpi pembakaran glukosa ialah -2800 kJ/mol . Berapakah mol glukosa yang perlu dibakar untuk menghasilkan 1000 kJ haba?

A. 0.0357 moles
0.0357 mol

B. 0.357 moles
0.357 mol

C. 3.57 moles
3.57 mol

D. 35.7 moles
35.7 mol

Answer: A

$$ut + \frac{1}{2} at^2$$
$$v = u + at$$
$$w = F \cdot s$$

NSC Past Year Questions: Chemistry (WOW – MCQ)

The Beijing 2022 Olympic used artificial snow for the game. Fake snow can be made in the lab using sodium and acrylate. This material can be classified as _____.

Olimpik Beijing 2022 menggunakan salji buatan untuk permainan sukan itu. Salji palsu boleh dibuat di makmal menggunakan natrium dan akrilat. Bahan ini boleh dikelaskan sebagai _____.

A. ceramics
seramik

B. composites
komposit

C. metals
logam

D. polymers
polimer

Answer: D

$$ut + \frac{1}{2} at$$
$$v = u + at$$
$$w = F \cdot s$$

NSC Past Year Questions: Chemistry (WOW – MCQ)

The diagram below shows one of the vegetables that is commonly used as the natural pH indicator. What is the change of colour observed in the natural pH indicator when lime water is added?

Rajah di bawah menunjukkan salah satu sayuran yang biasa digunakan sebagai penunjuk pH semula jadi. Apakah perubahan warna yang diperhatikan dalam penunjuk pH semula jadi apabila air kapur ditambahkan?



- | | |
|-----------|--|
| A. | Purple change to red.
<i>Ungu bertukar kepada merah.</i> |
| B. | Red change to green.
<i>Merah bertukar kepada hijau.</i> |
| C. | Purple change to green.
<i>Ungu bertukar kepada hijau.</i> |
| D. | Purple change to colourless.
<i>Ungu berubah kepada tidak berwarna.</i> |

Answer: A

$$ut + \frac{1}{2} at$$
$$v = u + at$$
$$w = F \cdot s$$

NSC Past Year Questions: Physics (Easy – MCQ)

Name the temporary phenomena that occurs on the surface of the Sun where one area has a cooler temperature than its surroundings.

Namakan fenomena sementara yang berlaku di permukaan Matahari di mana suatu kawasan bersuhu adalah lebih rendah berbanding dengan persekitarannya.

- | | |
|-----------|-------------------------------------|
| A. | Solar flare
<i>Nyalaan suria</i> |
| B. | Prominence
<i>Prominens</i> |
| C. | Sunspot
<i>Tompok Matahari</i> |
| D. | Solar wind
<i>Angin suria</i> |

Answer: C

$$\frac{1}{2} at^2$$

$$v = u + at$$


$$w = F \cdot s$$

NSC Past Year Questions: Physics (Easy – FITB)

Light ray is not refracted when the incident ray is _____ to the normal line.

Sinar cahaya tidak dibiaskan apabila sinar tuju _____ dengan garis normal.

Answer: parallel / selari


$$ut + \frac{1}{2} at^2$$
$$v = u + at$$
$$w = F \cdot s$$

NSC Past Year Questions: Physics (HOTS – MCQ)

A wind turbine uses the power of the wind to produce compressed hydrogen gas through electrolysis. Which of the following **BEST** describes the energy conversion that happens to produce compressed hydrogen gas from a wind turbine?

*Turbin angin menggunakan kuasa angin untuk menghasilkan gas hidrogen mampat melalui elektrolisis. Antara berikut, yang manakah paling **TEPAT** menerangkan penukaran tenaga yang berlaku untuk menghasilkan gas hidrogen mampat daripada turbin angin?*

A.	Kinetic Energy -> Mechanical Energy -> Electrical Energy <i>Tenaga Kinetik -> Tenaga Mekanikal -> Tenaga Elektrik</i>
B.	Kinetic Energy -> Mechanical Energy -> Electrical Energy -> Chemical Energy <i>Tenaga Kinetik -> Tenaga Mekanikal -> Tenaga Elektrik -> Tenaga Kimia</i>
C.	Kinetic Energy -> Mechanical Energy -> Electrical Energy -> Chemical Energy -> Potential Energy <i>Tenaga Kinetik -> Tenaga Mekanikal -> Tenaga Elektrik -> Tenaga Kimia -> Tenaga Keupayaan</i>
D.	Kinetic Energy -> Mechanical Energy -> Electrical Energy -> Chemical Energy -> Electrical Energy -> Potential Energy <i>Tenaga Kinetik -> Tenaga Mekanikal -> Tenaga Elektrik -> Tenaga Kimia -> Tenaga Elektrik -> Tenaga Keupayaan</i>

Answer: B

$\frac{1}{2} at$
 $v + a$
 $w = F \cdot s$

NSC Past Year Questions: Physics (HOTS – MCQ)

An electric iron has a heating element of resistance 50Ω . If the operating current flowing through it is 4 A , calculate the heat energy produced in 2 minutes.

Seterika elektrik mempunyai unsur pemanasan dengan rintangan 50Ω . Jika arus yang mengalir melaluinya ialah 4 A , hitung tenaga haba yang terhasil dalam 2 minit.

A. 96,000 J

B. 69,000 J

C. 24,000 J

D. 45,000 J

Answer: A

$\frac{1}{2} at$
 $u + a$
 $w = F \cdot s$

NSC Past Year Questions: Physics (WOW – MCQ)

A group of Japanese scientists have developed an effective method of removing microplastics from the sea using waves. What is the type of waves used?

Sekumpulan saintis Jepun telah mencipta kaedah efektif untuk menyingkirkan mikroplastik dari laut menggunakan gelombang. Apakah jenis gelombang yang digunakan?

- | | |
|-----------|---|
| A. | Radio waves
<i>Gelombang radio</i> |
| B. | Electromagnetic waves
<i>Gelombang elektromagnet</i> |
| C. | Sound waves
<i>Gelombang bunyi</i> |
| D. | Ultrasonic waves
<i>Gelombang ultrasonik</i> |

Answer: C

$$ut + \frac{1}{2} at^2$$
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NSC Past Year Questions: Physics (WOW – MCQ)

Which of the following phenomena and application involve total internal reflection?

Fenomena dan aplikasi yang manakah antara berikut melibatkan pantulan dalam penuh?

I	Aurora <i>Aurora</i>
II	Sky appears blue <i>Langit kelihatan biru</i>
III	Mirage <i>Fatamorgana</i>
IV	Cat's eye reflector <i>Pemantul mata kucing</i>

A. I and II
I dan II

B. II and III
II dan III

C. III and IV
III dan IV

D. I and IV
I dan IV

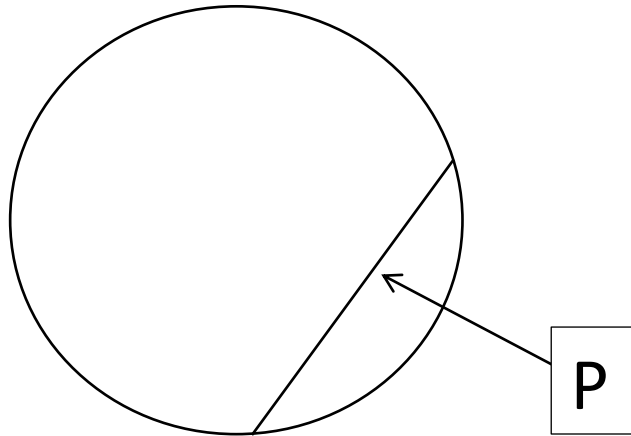
Answer: C

$$ut + \frac{1}{2} at^2$$
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NSC Past Year Questions: Mathematics (Easy – MCQ)

The following diagram shows a circle. Name the part labelled as P.

Rajah berikut menunjukkan sebuah bulatan. Namakan bahagian yang dilabel sebagai P.



A.	Chord <i>Perentas</i>
B.	Radius <i>Jejari</i>
C.	Diameter <i>Diameter</i>
D.	Arc <i>Lengkok</i>
Answer: A	

$$ut + \frac{1}{2} at^2$$
$$v = u + at$$
$$w = F \cdot s$$

NSC Past Year Questions: Mathematics (Easy – FITB)

The following data are the temperatures recorded for 5 days.


Data berikut ialah suhu yang dicatat untuk 5 hari.

25°C, 27°C, 34°C, 28°C, 29°C

Calculate the min.

Hitungkan min.

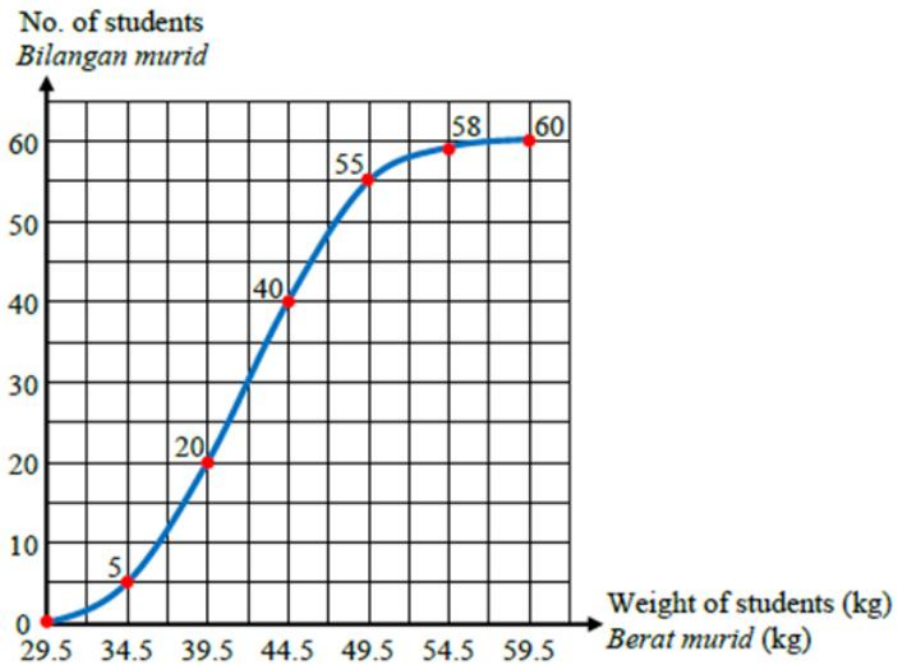
Answer: 28.6


$$ut + \frac{1}{2} at^2$$
$$v = u + at$$
$$w = F \cdot s$$

NSC Past Year Questions: Mathematics (HOTS – MCQ)

Diagram shows an ogive of a group of students' weight. Which of the following statements is **FALSE**?

Rajah menunjukkan satu ogif bagi berat sekumpulan murid. Antara pernyataan berikut, yang manakah **SALAH**?



Z

- | | |
|-----------|--|
| A. | The number of students in this group is 238.
<i>Bilangan murid bagi kumpulan ini ialah 238.</i> |
| B. | The estimated median weight of the students is 42 kg.
<i>Anggaran median berat kumpulan murid ini adalah 42 kg.</i> |
| C. | The modal class of this grouped data is 40 – 44 kg.
<i>Kelas mod bagi data terkumpul ini adalah 40 – 44 kg.</i> |
| D. | The number of students whose weight more than 44.5 kg is 20 students.
<i>Bilangan murid yang melebihi 44.5 kg ialah seramai 20 murid.</i> |

Answer: A

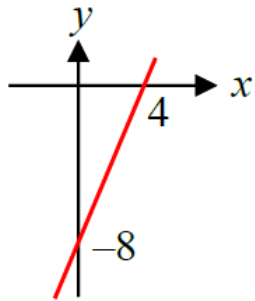
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NSC Past Year Questions: Mathematics (HOTS – MCQ)

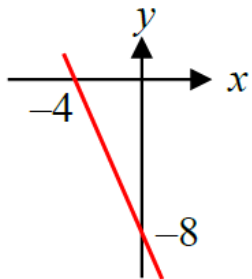
Which of the following graphs represents $y = 2x - 8$?

Antara graf berikut, yang manakah mewakili $y = 2x - 8$?

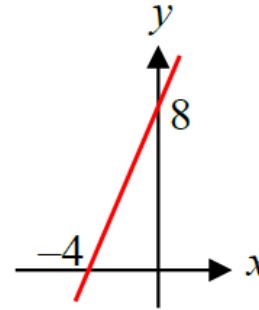
A.



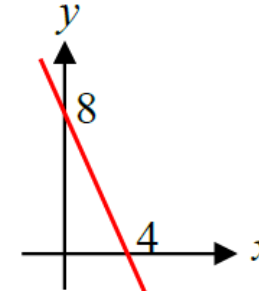
B.



C.



D.



Answer: A

$ut + \frac{1}{2}at^2$
 $v = u + at$
 $w = F \cdot s$

NSC Past Year Questions: Mathematics (WOW – MCQ)

A box contains 80 pens which consists of black pens and red pens. A pen is chosen at random from the box. The probability of choosing a black pen is $\frac{3}{4}$. How many black pens need to be taken out from the box so that the probability of choosing a black pen becomes $\frac{1}{3}$?

Sebuah kotak mengandungi 80 batang pen yang terdiri daripada pen hitam dan pen merah. Sebatang pen dipilih secara rawak daripada kotak itu. Kebarangkalian memilih sebatang pen hitam ialah $\frac{3}{4}$. Berapakah bilangan pen hitam yang perlu dikeluarkan daripada kotak itu supaya kebarangkalian memilih sebatang pen hitam menjadi $\frac{1}{3}$?

A.	40
B.	50
C.	60
D.	70

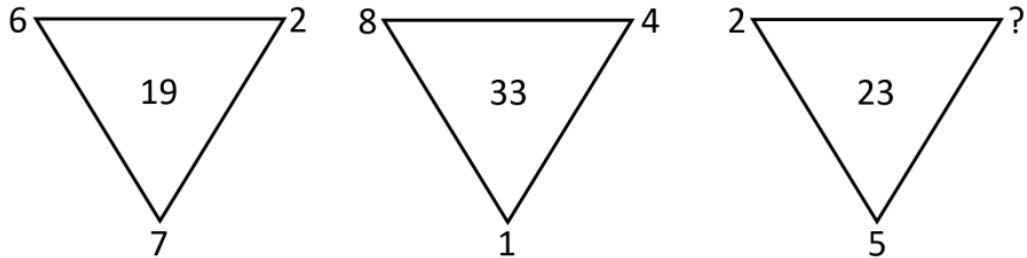
Answer: B

$$ut + \frac{1}{2} at$$
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NSC Past Year Questions: Mathematics (WOW – MCQ)

Which number replaces the question mark?

Nombor yang manakah menggantikan tanda soal?



A. 7

B. 8

C. 9

D. 6

Answer: C

$$ut + \frac{1}{2} at^2$$
$$v = u + at$$
$$w = F \cdot s$$