Bahagian A

Jawab semua *soalan.*

1 Apakah ciri-ciri imej yang terbentuk pada cermin satah?
What are the characteristics of the images formed on plane mirrors?

I Maya *Virtual*
II Tegak *Upright*
III Sahih *Real*
IV Songsang *Inverted*

A I dan *and* II
B II dan *and* III
C III dan *and* IV
D I dan *and* IV

2 Apakah jenis cermin yang digunakan oleh doktor gigi semasa melakukan rawatan?
What type of mirror is used by dentists during treatments?

A Cermin satah *Plane mirror*
B Kanta pembesar *Magnifying glass*
C Cermin cekung *Concave mirror*
D Cermin cembung *Convex mirror*

3 Antara berikut, yang manakah betul tentang perbezaan antara cermin cekung dengan cermin cembung?
Which of the following differences between concave mirrors and convex mirrors is correct?

	Cermin cekung *Concave mirror*	Cermin cembung *Convex mirror*
A	Melengkung ke luar *Curves outwards*	Mendatar *Horizontal*
B	Saiz imej lebih kecil daripada saiz objek *The size of image is smaller than the size of object*	Saiz imej lebih besar daripada saiz objek *The size of image is larger than the size of object*
C	Imej maya *Virtual image*	Imej sahih *Real image*
D	Sinar cahaya yang selari dipantul balik dan menumpu *Parallel rays of light are reflected back and converge*	Sinar cahaya yang selari dipantul balik dan mencapah *Parallel rays of light are reflected back and diverge*

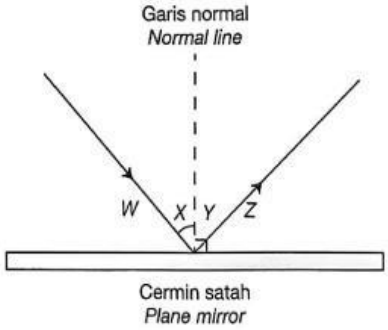
4 Bagaimanakah bayang-bayang terbentuk?
How are shadows formed?

A Cahaya yang terkena pada suatu objek diserap oleh objek itu.
The light that falls on an object is absorbed by the object.
B Cahaya yang jatuh pada suatu objek dipantulkan semula oleh objek itu.
The light that falls on an object is reflected by the object.
C Cahaya yang jatuh pada suatu objek dibiaskan oleh objek itu.
The light that falls on an object is refracted by the object.
D Cahaya dihalang oleh objek legap.
Light is blocked by opaque objects.

5 Antara berikut, yang manakah **tidak** benar tentang sifat cahaya?
*Which of the following is **not** true about the property of light?*

A Cahaya boleh dipantulkan
Light can be reflected
B Cahaya boleh diserakkan
Light can be scattered
C Cahaya hanya boleh ditambah
Light can only be added
D Cahaya bergerak dalam garis lurus
Light moves in a straight line

6 Rajah berikut menunjukkan sinar pantulan cahaya pada cermin satah.
The diagram shows a ray of light that is reflected on a plane mirror.



Apakah Z? *What is Z?*

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A Sinar tuju
Incident ray

B Sudut tuju
Angle of incidence

C Sinar pantulan
Reflected ray

D Sudut pantulan
Angle of reflection

7 Antara pernyataan berikut, yang manakah benar tentang pantulan cahaya?
Which of the following statements is true about light reflection?

A Sinar tuju dan sinar pantulan berada pada satah yang bertentangan.
The incident ray and the reflected ray are in opposite planes.

B Sudut tuju adalah sama dengan sudut pantulan.
The angle of incidence is equal to the angle of reflection.

C Semakin besar sudut tuju, semakin kecil sudut pantulan.
The larger the angle of incidence, the smaller the angle of reflection.

D Garis normal selari dengan permukaan cermin satah.
The normal line is parallel to the surface of the plane mirror.

8 Antara situasi berikut, yang manakah terbentuk akibat penyebaran cahaya?
Which of the following situations is formed due to the dispersion of light?

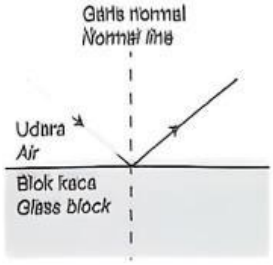
A Langit kelihatan kemerahan pada waktu senja
The sky appears reddish at dusk

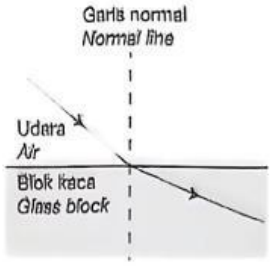
B Sungai kelihatan lebih cetek daripada kedalamannya yang sebenar
A river appears shallower than its actual depth

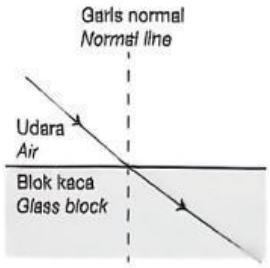
C Penggunaan segi tiga cahaya kecemasan
The use of emergency light triangles

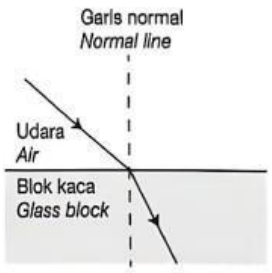
D Pembentukan pelangi
Formation of rainbows

9 Antara rajah berikut, yang manakah menunjukkan sinar biasan yang terbentuk apabila cahaya melalui blok kaca?
Which of the following diagrams shows the refractive rays formed when light passes through a block of glass?

A


B


C


D


10 Apakah warna yang dihasilkan daripada penyebaran cahaya?
What colours are produced from the scattering of light?

I Merah
Red

II Hitam
Black

III Perang
Brown

IV Ungu
Violet

A I dan *and* II

B II dan *and* III

C III dan *and* IV

D I dan *and* IV

Jawab soalan 11 dan 12 berdasarkan rajah berikut.
Answer questions 11 and 12 based on the following diagram.

Rajah berikut menunjukkan satu spekturm cahaya yang diperhatikan apabila satu alur cahaya putih melalui satu prisma kaca.
The following diagram shows the light spectrum observed when a white light stream passes through a glass prism.

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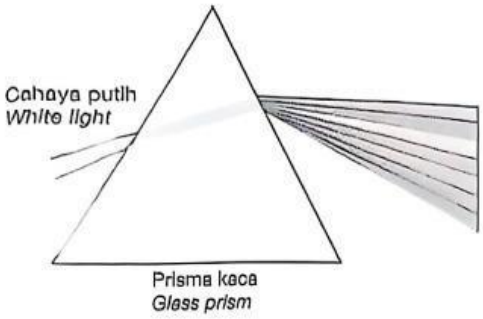

11 Apakah fenomena yang berlaku?
What is the phenomenon that occurs?

A Pantulan cahaya
Reflection of light

B Penyebaran cahaya
Dispersion of light

C Pembiasan cahaya
Refraction of light

D Penyerakan cahaya
Scattering of light

12 Antara pernyataan berikut, yang manakah betul mengenai fenomena tersebut?
Which of the following statements is correct about the phenomenon?

A Setiap cahaya berlainan warna mempunyai sudut biasan yang sama.
Each different coloured light has the same angle of refraction.

B Setiap cahaya berlainan warna bergerak dengan kelajuan yang sama.
Each light of a different colour moves at the same speed.

C Cahaya biru bergerak dengan kelajuan paling tinggi.
The blue light moves at the highest speed.

D Cahaya merah paling kurang terbias.
The red light is the least refracted.

13 Mengapakah langit kelihatan kebiruan pada waktu tengah hari?
Why does the sky appear blue at midday?

A Cahaya merah diserak paling banyak ke semua arah.
Red light is scattered the most in all directions.

B Cahaya merah diserak paling kurang.
Red light is scattered the least.

C Cahaya biru diserak paling banyak ke semua arah.
Blue light is scattered the most in all directions.

D Cahaya biru diserakkan paling kurang.
Blue light is scattered the least.

14 Pada waktu senja, mengapakah langit kelihatan kemerahan?
At dusk, why does the sky appear reddish?

I Cahaya merah dan jingga kurang diserak dan bergerak melalui atmosfera.
Red and orange lights are less scattered and move through the atmosphere.

II Cahaya biru kurang diserak dan bergerak melalui atmosfera.
Blue light is less scattered and moves through the atmosphere.

III Cahaya merah dan jingga diserak dalam semua arah.
Red and orange lights are scattered in all directions.

IV Cahaya biru diserak dalam semua arah oleh zarah udara.
Blue light is scattered in all directions by the air particles.

A I dan *and* II
B II dan *and* III
C I dan *and* III
D I dan *and* IV

15 Antara warna berikut, yang manakah **bukan** warna primer?
*Which of the following colours is **not** a primary colour?*

A Merah
Red

B Kuning
Yellow

C Biru
Blue

D Hijau
Green

16 Antara berikut, yang manakah betul tentang warna sekunder yang terbentuk melalui penambahan dua warna primer?
Which of the following is correct about the secondary colour formed by the addition of two primary colours?

	Warna primer *Primary colour*	**Warna sekunder** *Secondary colour*
A	Hijau + biru *Green + blue*	Sian *Cyan*
B	Hijau + merah *Green + red*	Hitam *Black*
C	Merah + biru *Red + blue*	Kuning *Yellow*
D	Merah + kuning *Red + yellow*	Magenta *Magenta*

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