

Light

Question Paper 2

Level	IGCSE
Subject	Physics (0625/0972)
Exam Board	Cambridge International Examinations (CIE)
Topic	General Physics
Sub-Topic	Light
Booklet	Question Paper 2

Time allowed: 21 minutes

Score: /17

Percentage: /100

Grade Boundaries:

9	8	7	6	5	4	3	2	1
>85%	75%	68%	60%	55%	50%	43%	35%	<30%

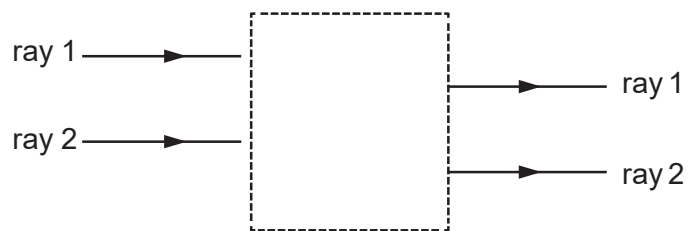
Question 1

Which statement about a converging lens is **not** correct?

- A. A ray parallel to the principal axis of the lens is refracted through the principal focus.
- B. All rays of light refracted by the lens pass through the principal focus.
- C. The distance between the centre of the lens and the principal focus is the focal length.
- D. The principal focus of the lens is a point on the principal axis.

Question 2

Rays of light enter and leave a box.

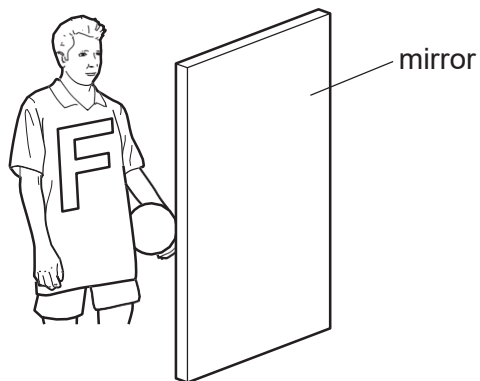


What could be inside the box to make the rays behave as shown?

- A. a converging lens
- B. a parallel-sided glass block
- C. a plane mirror
- D. a triangular prism

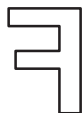
Question 3

A boy wears a shirt with a letter F on the front. He stands in front of a plane mirror.



What does he see in the mirror?

A



B



C

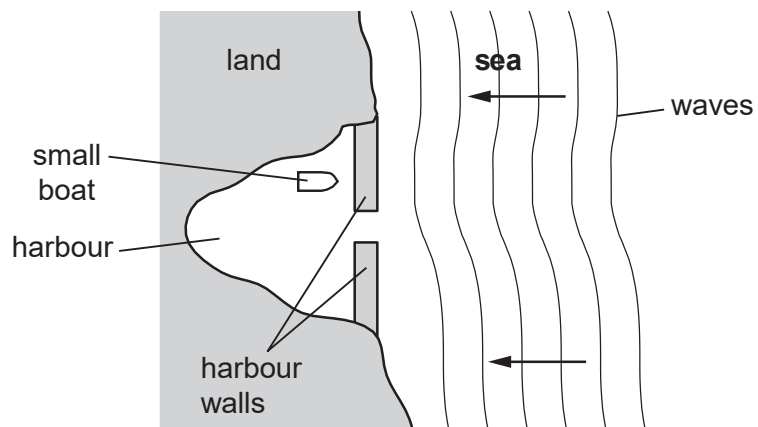


D



Question 4

A small boat in a harbour is protected from waves on the sea by harbour walls.



Some waves can curve round the harbour walls and reach the boat.

What is the name of this effect?

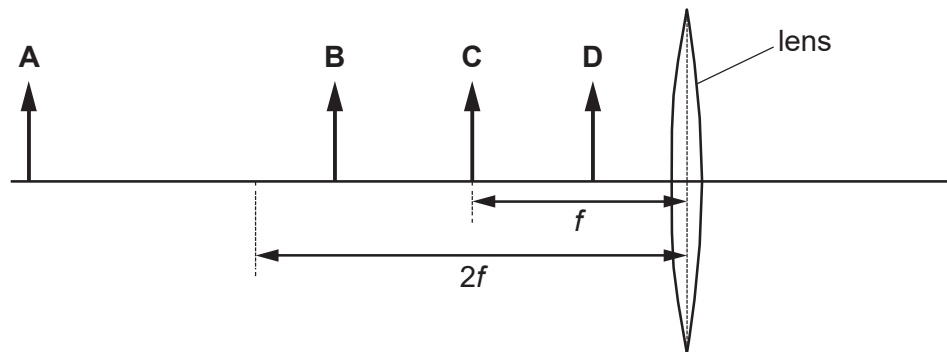
- A diffraction
- B dispersion
- C reflection
- D refraction

Question 5

An object is placed in front of a converging lens. The lens has a focal length f .

The lens produces a real, enlarged image of the object.

In which labelled position is the object placed?



Question 6

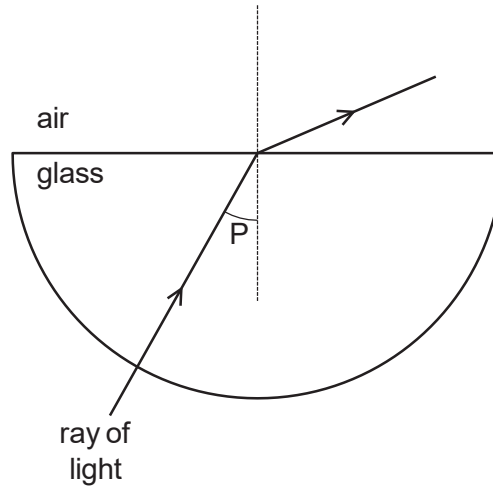
Light waves pass from air into glass and are refracted.

What always remains constant when this happens?

- A. direction
- B. frequency
- C. speed
- D. wavelength

Question 7

The diagram shows a ray of light passing through a semicircular glass block into air.

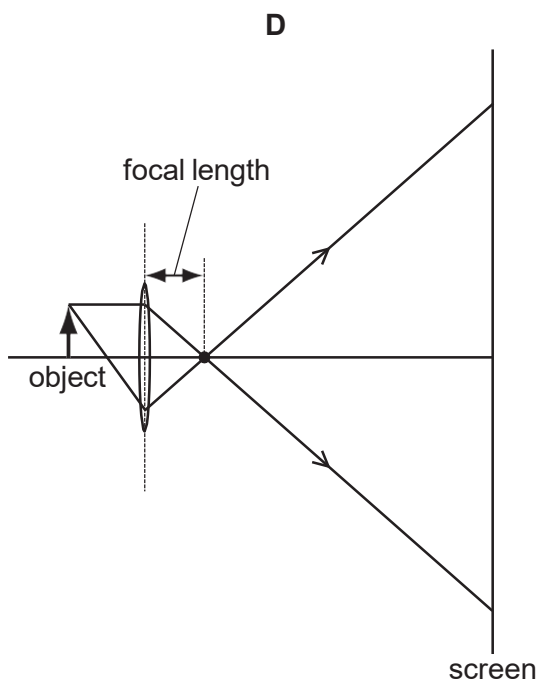
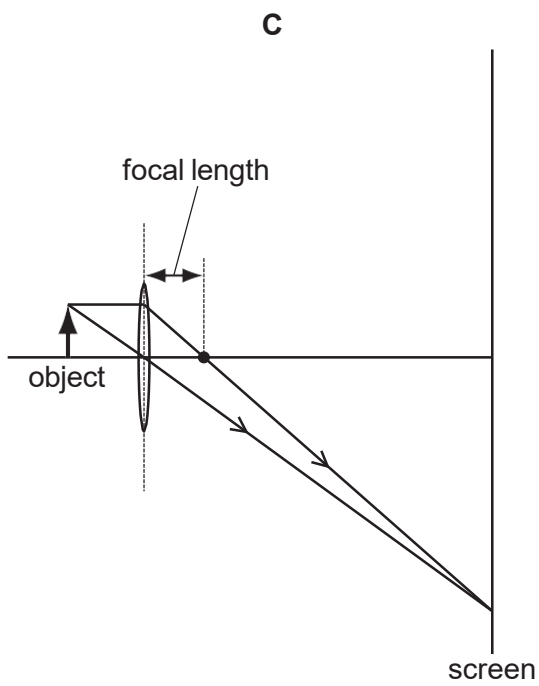
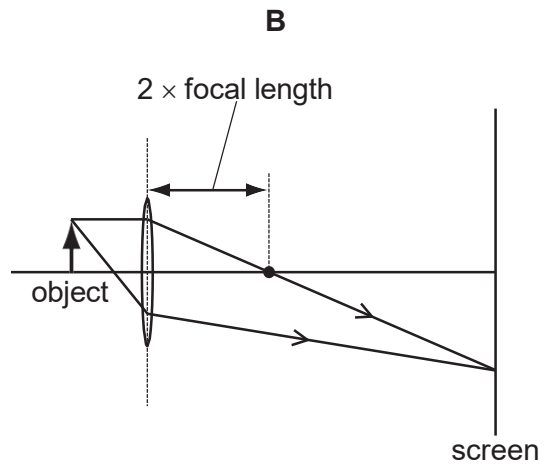
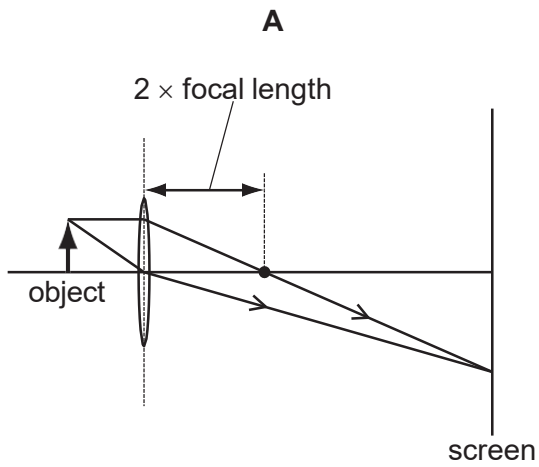


Which row gives the correct name for angle P and states how angle P compares with the critical angle?

	name of angle P	angle P compared with the critical angle
A	angle of incidence	larger than the critical angle
B	angle of incidence	smaller than the critical angle
C	angle of refraction	larger than the critical angle
D	angle of refraction	smaller than the critical angle

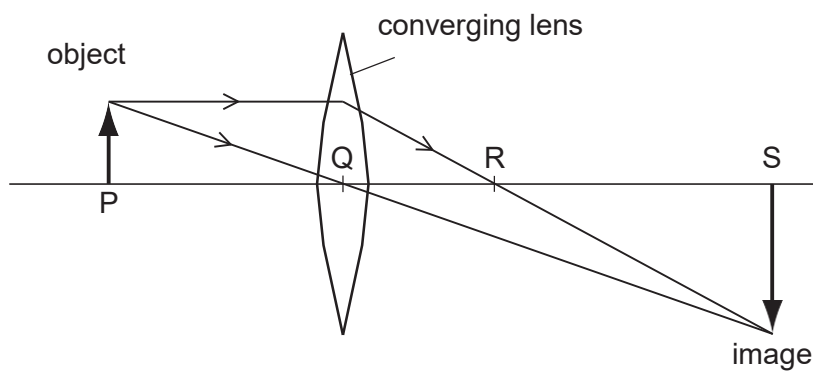
Question 8

Which diagram shows how an image of an object is formed on a screen by a converging lens?



Question 9

The diagram represents a converging lens forming an image of an object.



Which distance is the focal length of the lens?

A PQ

B PR

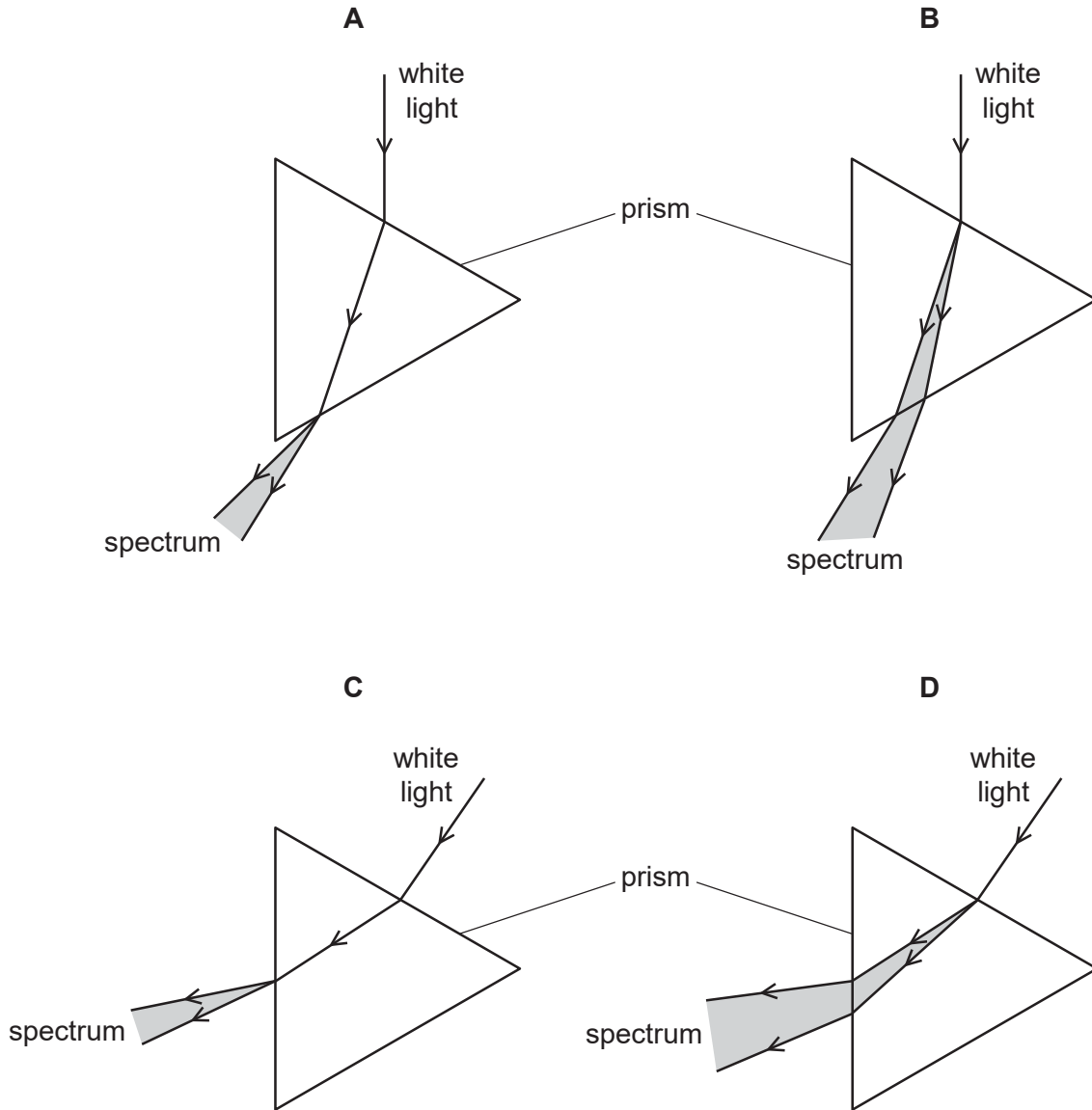
C QR

D QS

Question 10

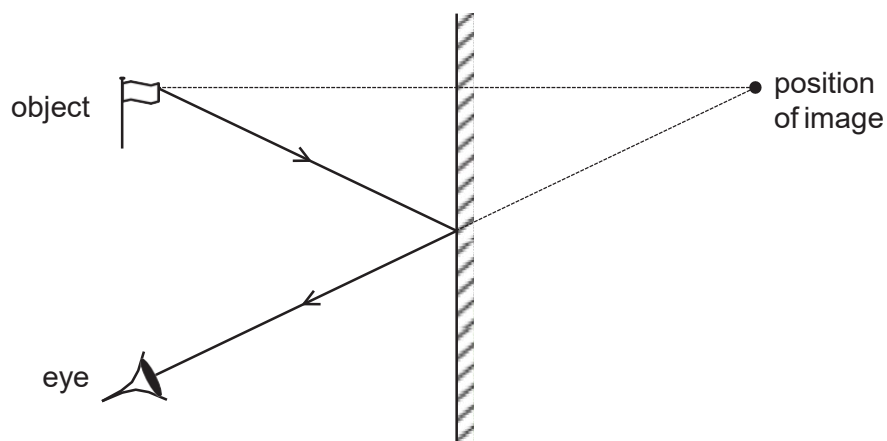
A teacher demonstrates the dispersion of white light using a triangular glass prism.

Which diagram shows how this dispersion happens?



Question 11

The image formed by a plane mirror is upright.



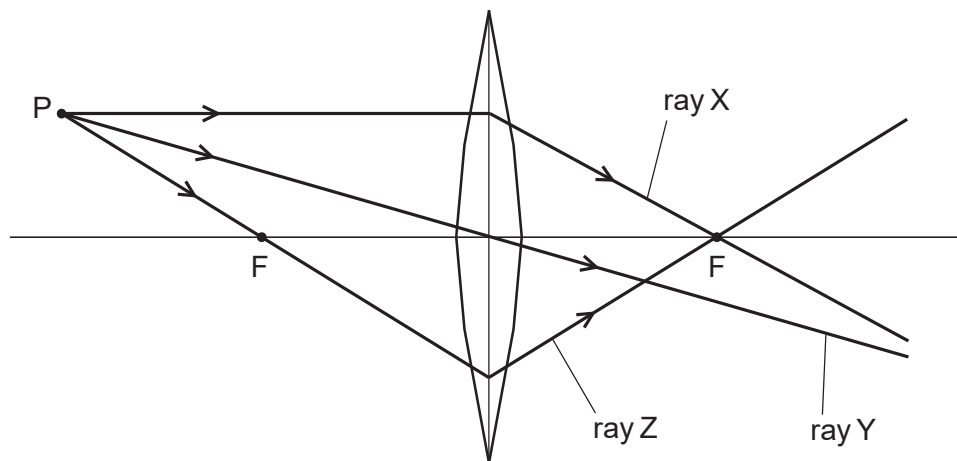
What are the other characteristics of the image?

	laterally inverted (left to right)	magnified (larger than the object)	virtual
A	no	yes	yes
B	yes	no	no
C	yes	no	yes
D	yes	yes	no

Question 12

A student draws three rays of light from point P through a converging lens.

Each point labelled F is a principal focus of the lens.

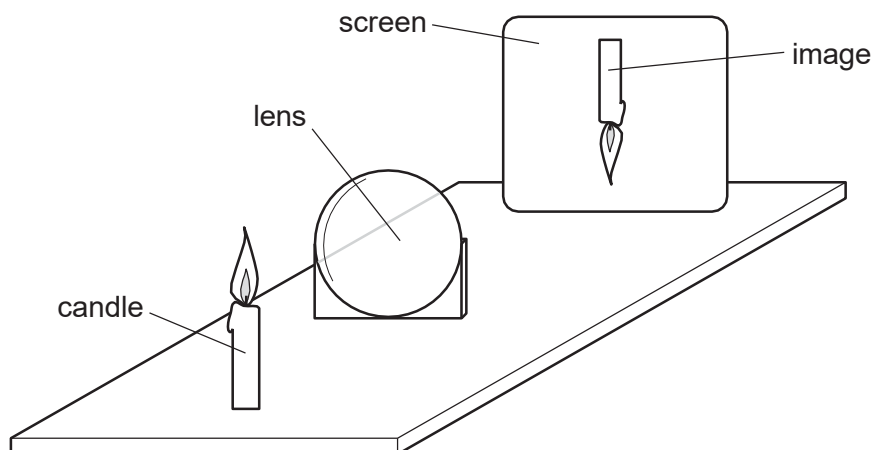


Which of the rays are drawn correctly?

- A. ray Y only
- B. ray Z only
- C. ray X and ray Y
- D. ray X and ray Z

Question 13

A thin converging lens is used to produce, on a screen, a focused image of a candle.



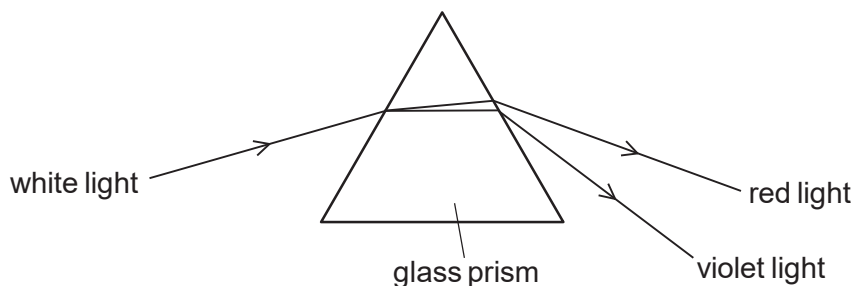
Various focused images are produced on the screen by moving the lens and the screen backwards and forwards.

Which statement is **always** correct?

- A. The image is at the principal focus (focal point) of the lens.
- B. The image is bigger than the object.
- C. The image is closer to the lens than the object is.
- D. The image is inverted.

Question 14

The diagram shows the dispersion of white light by a glass prism.

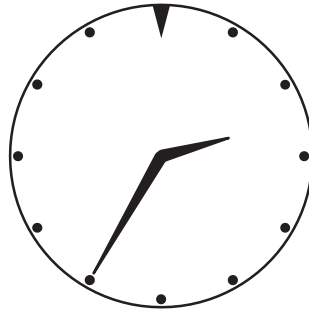


Why does dispersion occur when white light enters the glass?

- A The frequency of red light decreases more than that of violet light.
- B The frequency of violet light decreases more than that of red light.
- C The speed of red light decreases more than that of violet light.
- D The speed of violet light decreases more than that of red light.

Question 15

The diagram shows the image of a clock in a plane mirror.



What time is shown?

A 02:25

B 02:35

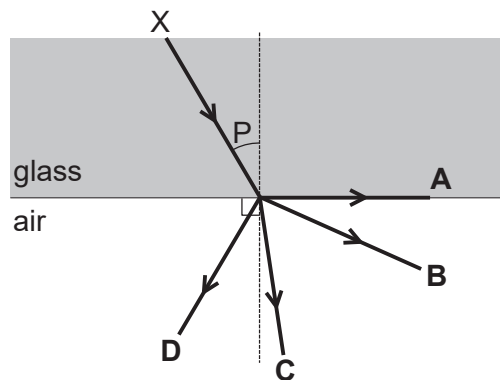
C 09:25

D 09:35

Question 16

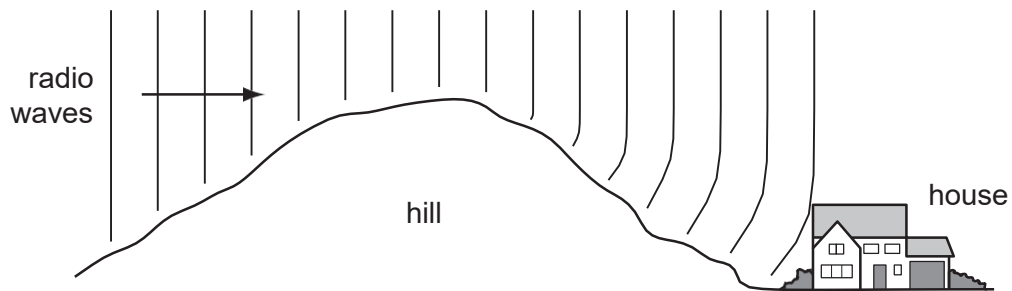
The diagram shows a ray of light travelling from X. Angle P is less than the critical angle.

In which direction does the ray continue?



Question 17

Radio waves are received at a house at the bottom of a hill.



The waves reach the house because the hill has caused them to be

- A. diffracted.
- B. radiated.
- C. reflected.
- D. refracted.