

SCIENCE: LIGHT ENERGY

Name:

Section A: Multiple-Choice Questions (28 marks)

Question 1

Look at Figure 23 and table 1.

Distance from torch	Length of shadow
25 cm	15 cm
50 cm	13 cm
75 cm	11 cm
100 cm	9 cm
125 cm	?

Table 1

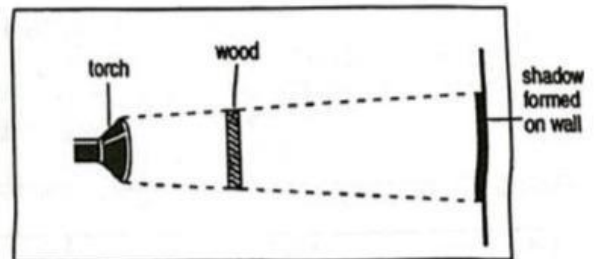



Figure 23

What would be the length of the shadow formed on the wall as you move the wood further away from the torch?

- A. 3cm.
B. 5cm.
C. 7cm
D. 12cm.



Question 2

Study Figure 5 carefully. What will happen to the match?

- A. The match will become cold
- B. The match will burst into flames.
- C. The match will melt.
- D. Nothing happens.

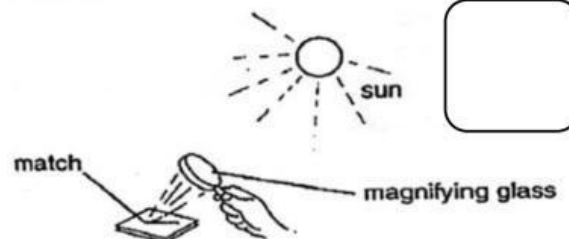



Figure 5



Question 3

Figure 6 shows a boy standing under the sun outside his classroom. The shadow on the ground has the same shape as the boy. What does this show?

- A. Light can be bent.
B. Light can be reflected.
C. Light can pass through an opaque object.
D. Light travels in a straight line.

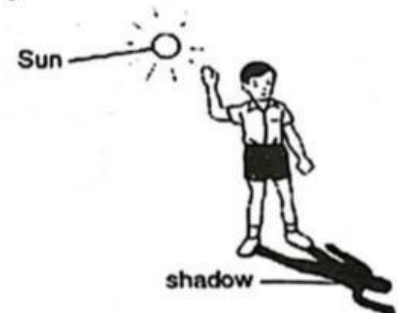



Figure 6



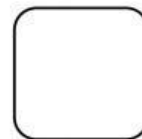
Question 4

Figure 3 shows an image of a car in a mirror. What is the actual number painted on the door of the car?

- A. 6159
- B. 6519
- C. 9156
- D. 9516



Figure 3



Question 5

Which of the following graphs in Figure 13 correctly shows the changes in the length of a shadow cast by an object during the day?

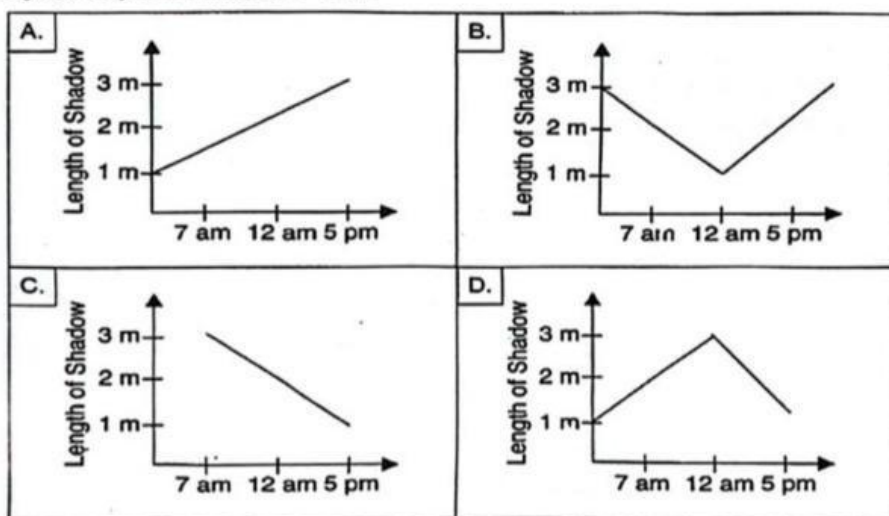
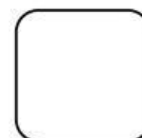


Figure 13



Question 6

Which of the following in Figure 7 give off their own light?

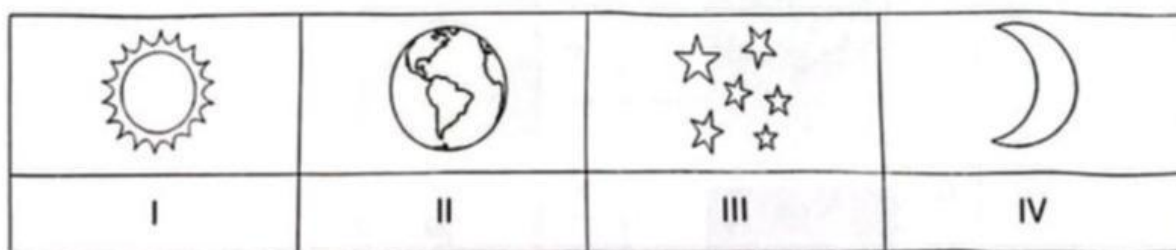
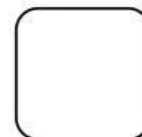


Figure 7

- A. I and II
- B. I and III.

- C. I, II, and III
- D. II and IV.



Question 7

Study Figure 6 below.

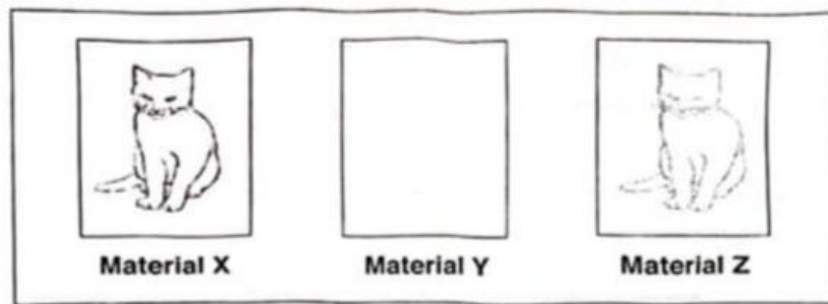


Figure 6

Dania looked at the cat through three different Materials X, Y and Z. She drew what she could see as shown above. Which of the following correctly describe the materials?

	Material X	Material Y	Material Z
A.	Opaque	Translucent	Transparent
B.	Translucent	Transparent	Opaque
C.	Transparent	Opaque	Translucent
D.	Transparent	Translucent	Opaque

Question 8

Which of the following diagrams in Figure 11 correctly shows how the man can see the flower?

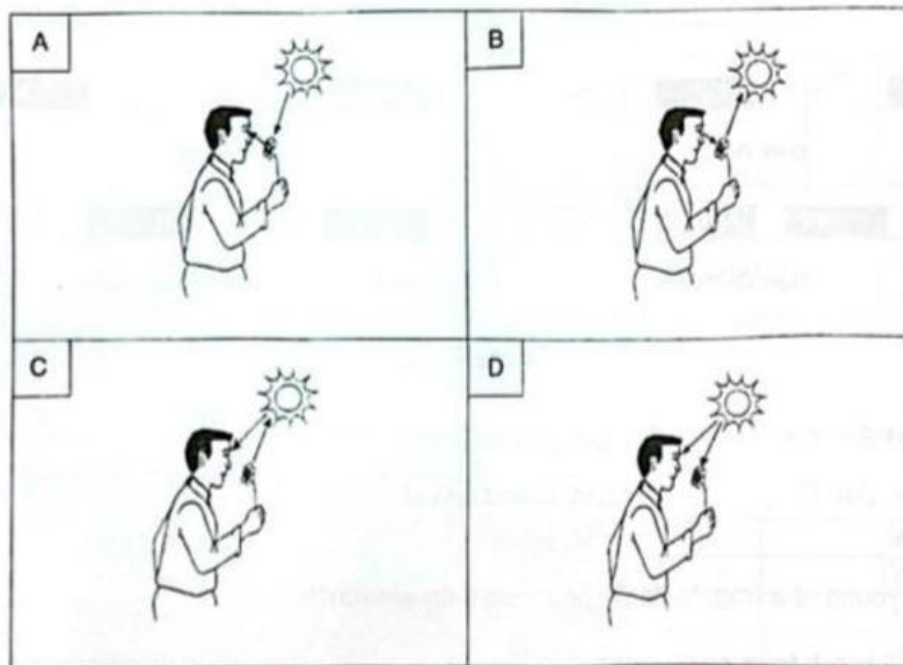


Figure 11

Question 9

Ahmad conducted an experiment about light. He observed the shadow cast by **Ruler 1** and **Ruler 2** as shown in Figure 5.

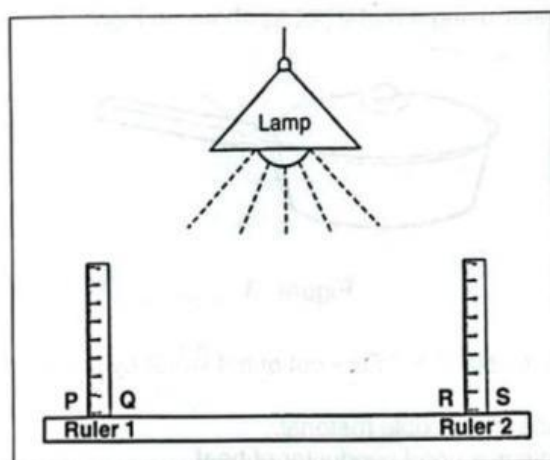


Figure 5

Which one of the following correctly describes the shadow cast by the ruler at each position?

	Ruler 1	Ruler 2
A.	P	R
B.	P	S
C.	Q	R
D.	Q	S

Question 10

During a thunderstorm you see the lighting before you hear the thunder.
This is because _____.

- A. light travels in a straight line
- B. light travels faster than sound
- C. sound travels a longer distance than light
- D. sound and light travel at the same speed

Question 11

Which of the following in Figure 19 give off their own light?

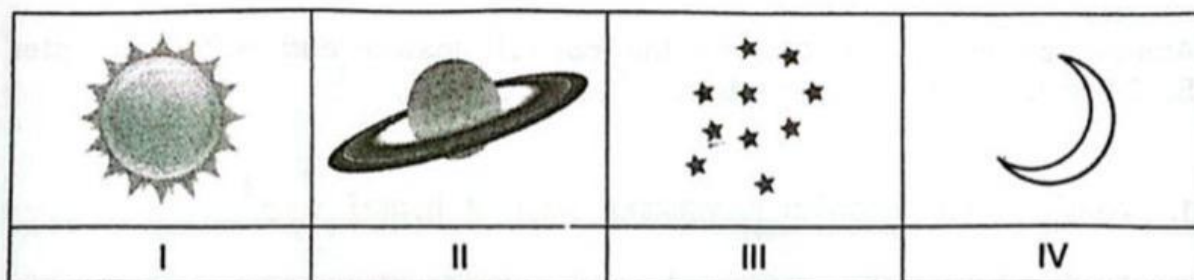
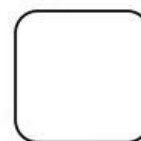


Figure 19

- A. I and II
- B. I and III
- C. I, II and III
- D. II and IV



Question 12

Linda set up an experiment to investigate the properties of light as in Figure 16.

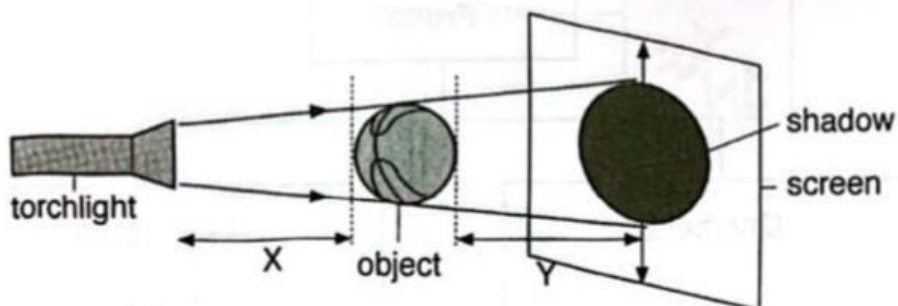


Figure 16

What should Linda do if she wants to find out how the distance between the object and the screen will affect the size of the shadow?

- A. Increase the height of the screen.
- B. Move the object along Y.
- C. Move the torchlight along X.
- D. Move the torchlight along Y.



Question 13

Fatimah did an experiment on light and shadow. She used a torch, a screen and two objects X and Y as shown in Figure 15.

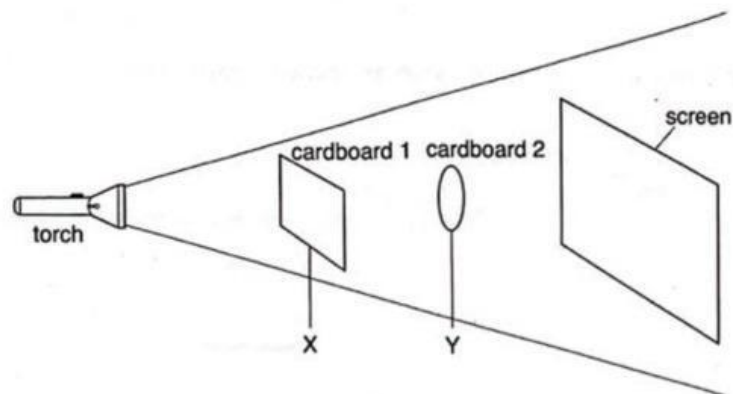
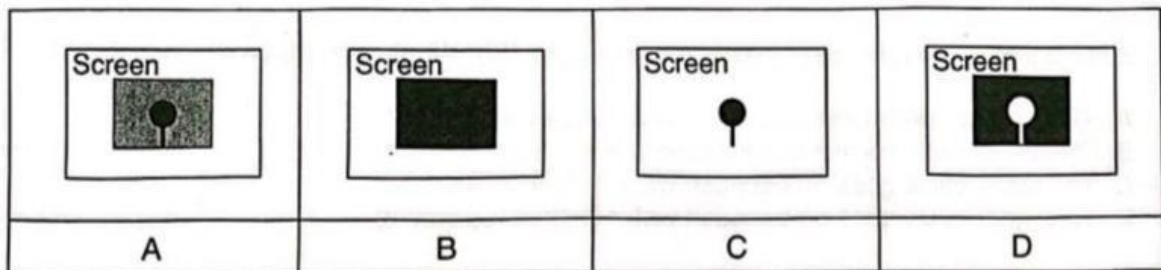


Figure 15

Which of the following **correctly** shows the shadow on the screen?



Question 14

Figure 8 shows a bus driver using the side mirror to see the car behind him?

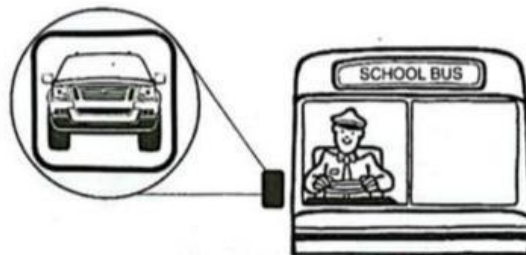


Figure 8

Why was the bus driver able to see the car behind him?

- A. The mirror gives out light to the car behind him.
- B. The mirror blocks light from the car behind him.
- C. The mirror reflects light from the car behind him.
- D. The mirror takes in light from the car behind him.

Question 15

Ishak shines a torch at two objects shown in Figure 11.

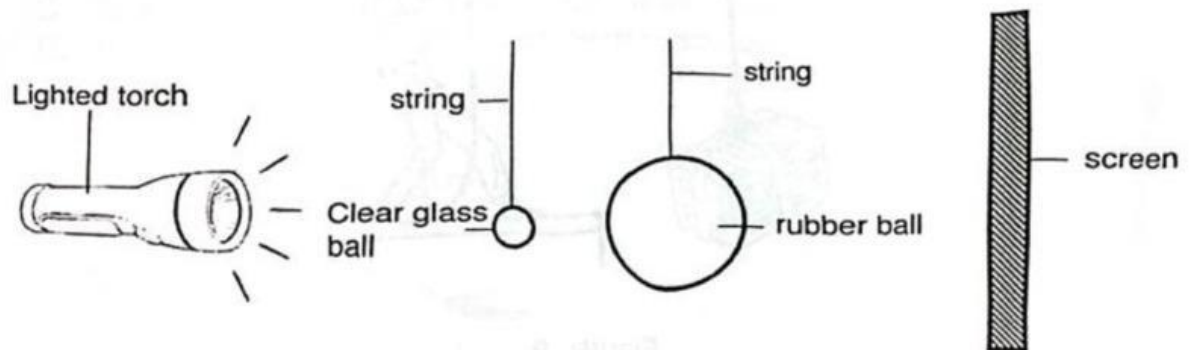
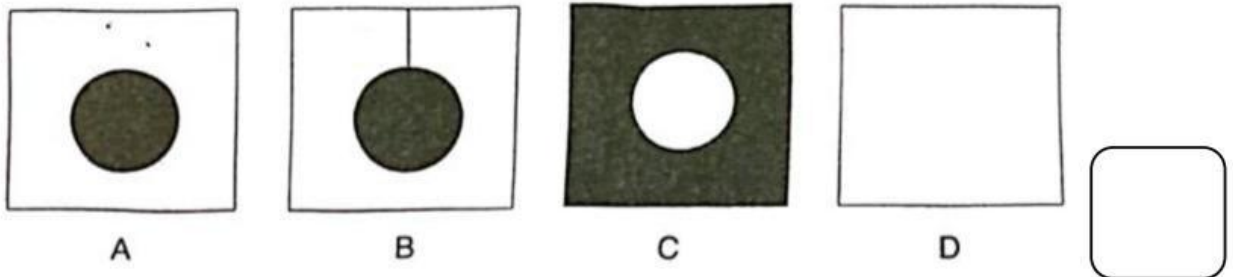


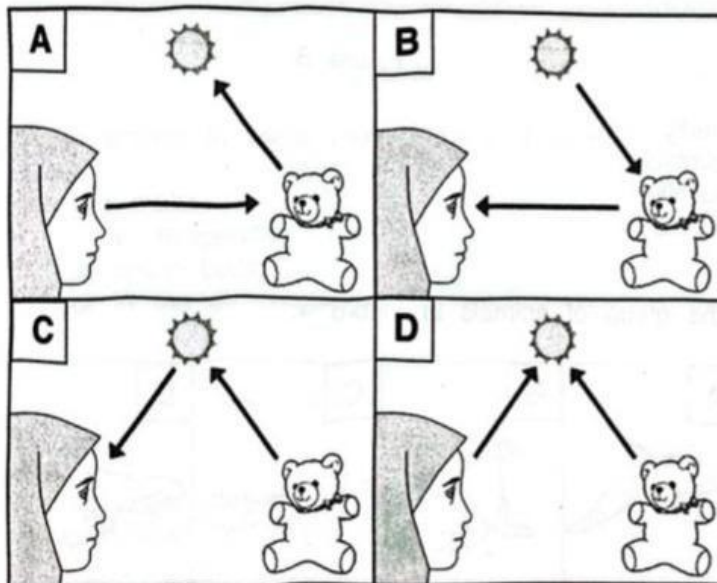
Figure 11

Which of the following images will most likely be seen on the screen?



Question 16

Which of the following diagrams in Figure 2 **correctly** shows how the girl can see the teddy bear?



Question 17

D. Figure 20 shows the classification of six types of materials into groups X, Y and Z.

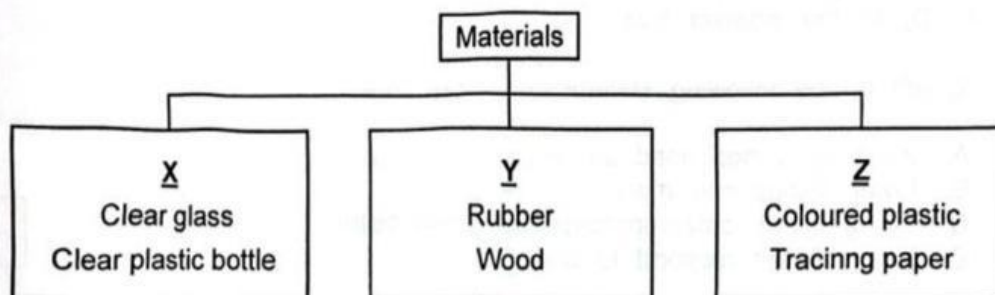


Figure 20

What does X, Y and Z represent?

	X	Y	Z
A.	Opaque	Translucent	Transparent
B.	Opaque	Transparent	Translucent
C.	Transparent	Opaque	Translucent
D.	Transparent	Translucent	Opaque

Question 18

Figure 16 below shows a periscope.

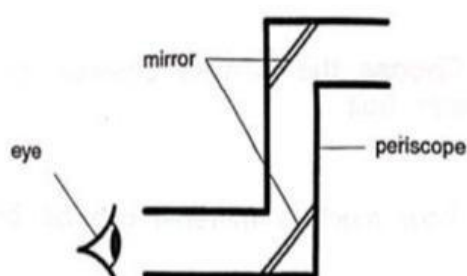


Figure 16

Which of the following statements about light correctly describes why we can see the image of an object through a periscope?

- A. Light can bend
- B. Light can be reflected
- C. Light travels in a curve path
- D. Light is given out by all objects

Question 19

Figure 7 shows, three cardboards with small hole arranged in a straight line. The candle flame can be seen by Hamid from the other end. But, if one of the cardboards is moved slightly to one side, Hamid cannot see the candle flame from the other end.

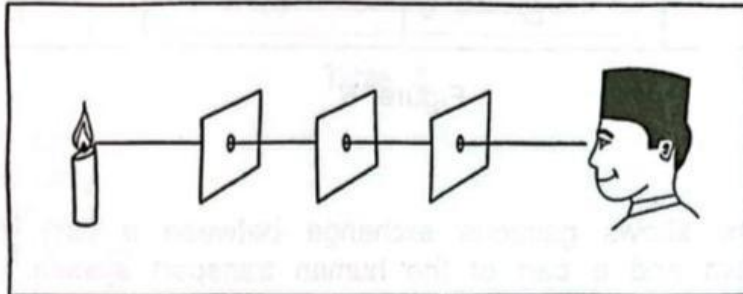
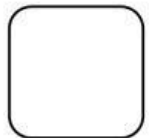


Figure 7

Why does this happen?

- A. Light can bend around corners.
- B. Light stays in one place only.
- C. Light travels in a straight line only.
- D. Light travels in a zig-zag direction.



Question 20

Study Figure 10 carefully.

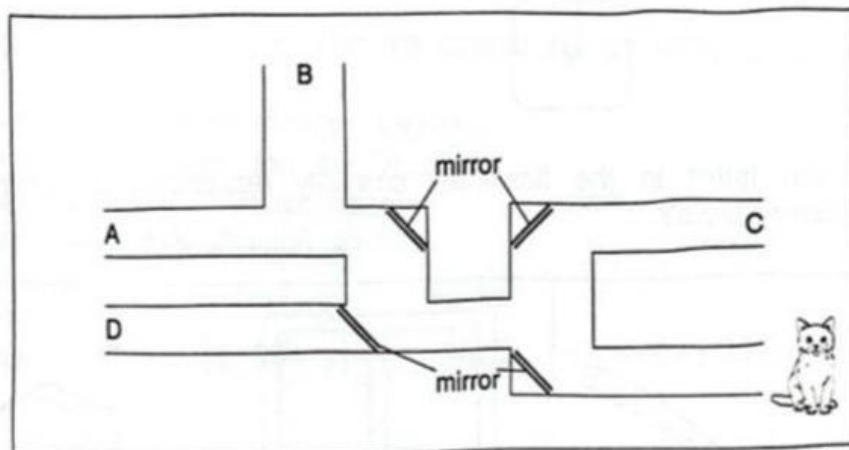
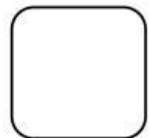


Figure 10

At which position will Nara able to see the cat?

- A. Position A.
- B. Position B.
- C. Position C.
- D. Position D.



Question 21

Dani did an experiment on light and shadow. He used a torch, a screen and two objects X and Y, arranged side by side to each other, as shown in Figure 14.

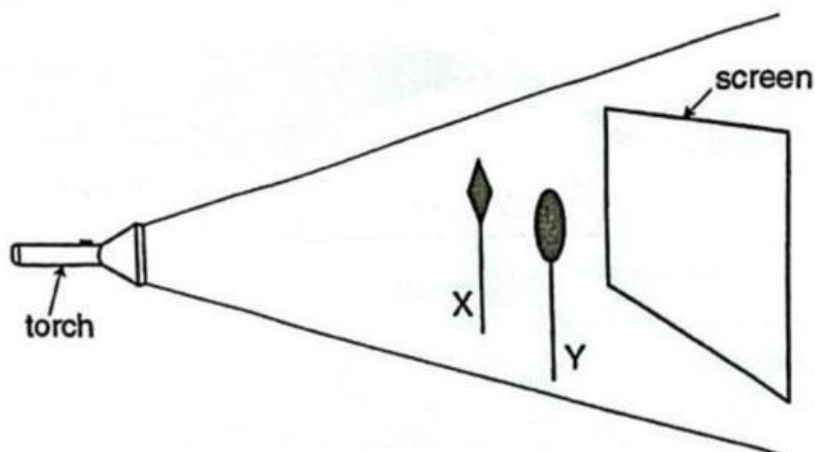
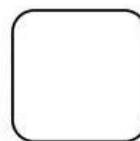
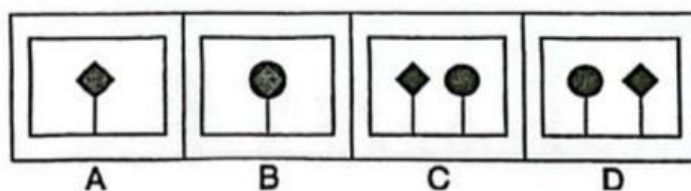


Figure 14

Which of the following **correctly** shows the shadow on the screen?



Question 22

Which diagram in Figure 5 shows that light is reflected?

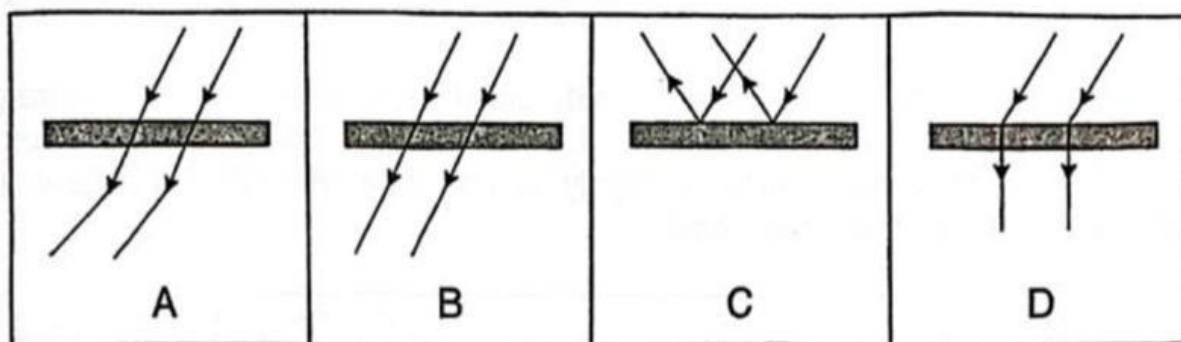
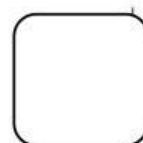


Figure 5



Question 23

Figure 8 shows three identical balls. All three balls were placed at different distances in front of a screen. A light source is switch on and the shadows of the balls were casts on the screen.

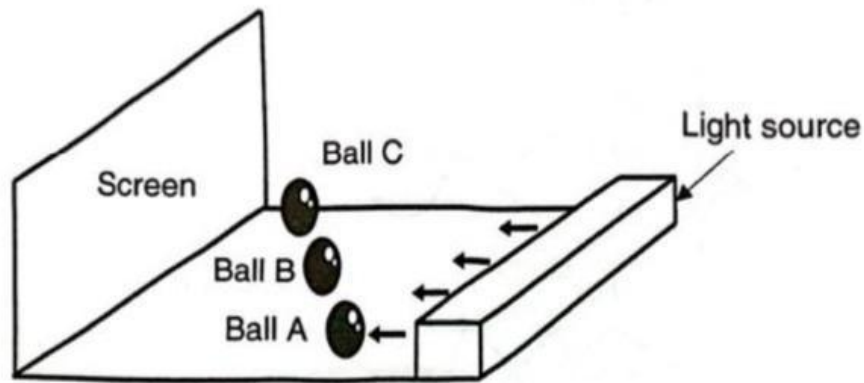
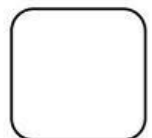
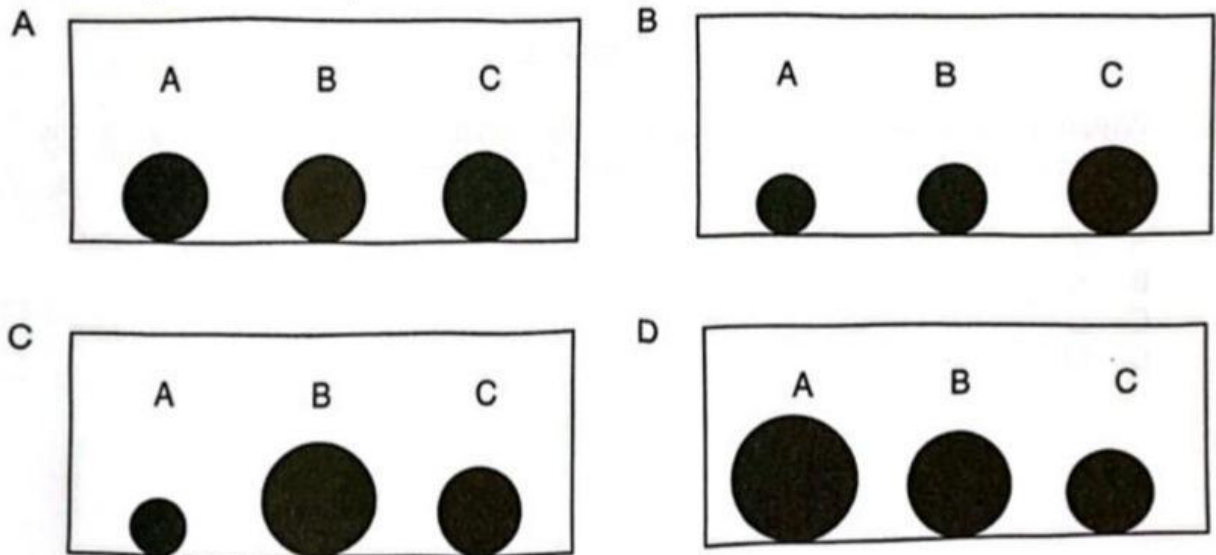


Figure 8

Assuming the balls do not block one another, which of the following diagrams below correctly shows the diagram of Ball A, B and C on the screen.



Question 24

Study the diagram in Figure 5 carefully.

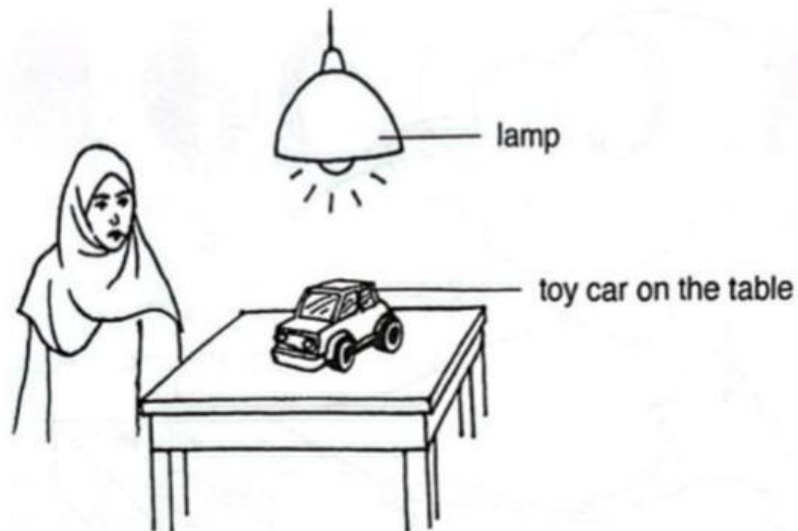
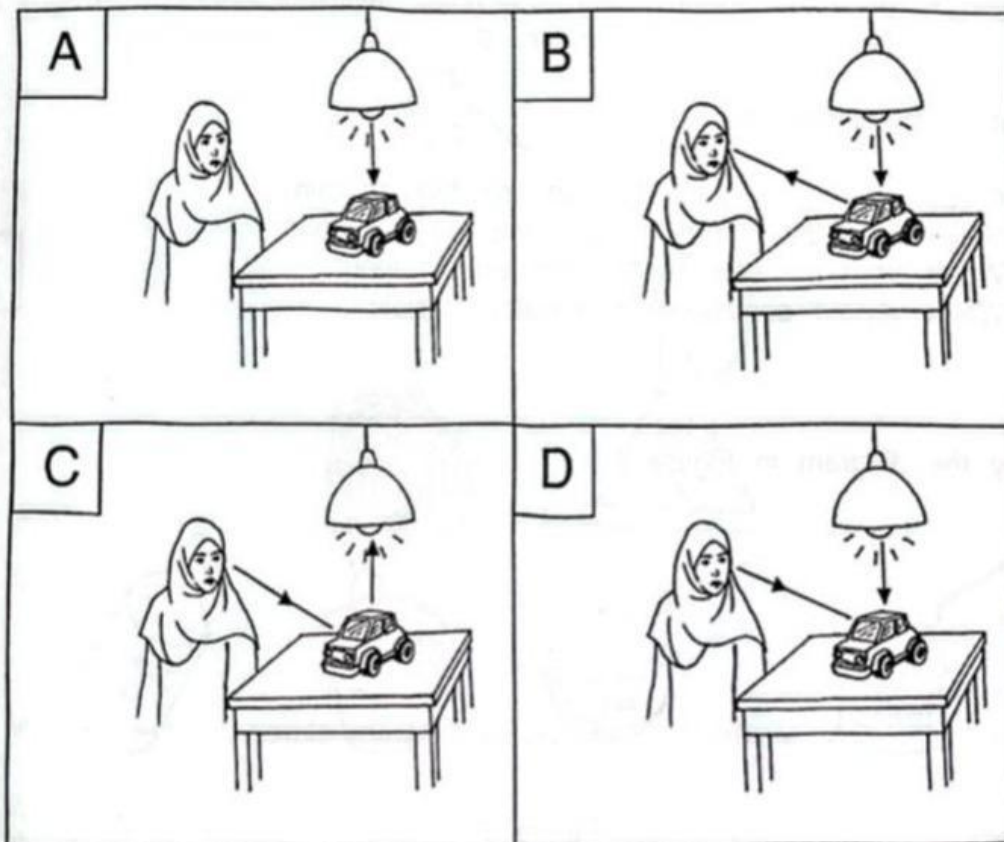


Figure 5

Which of the following explains how Siti can see the toy car on the table?



Question 25

Shamsul did an experiment on light and shadow. He used a torch, a screen and two objects X and Y as shown in Figure 9.

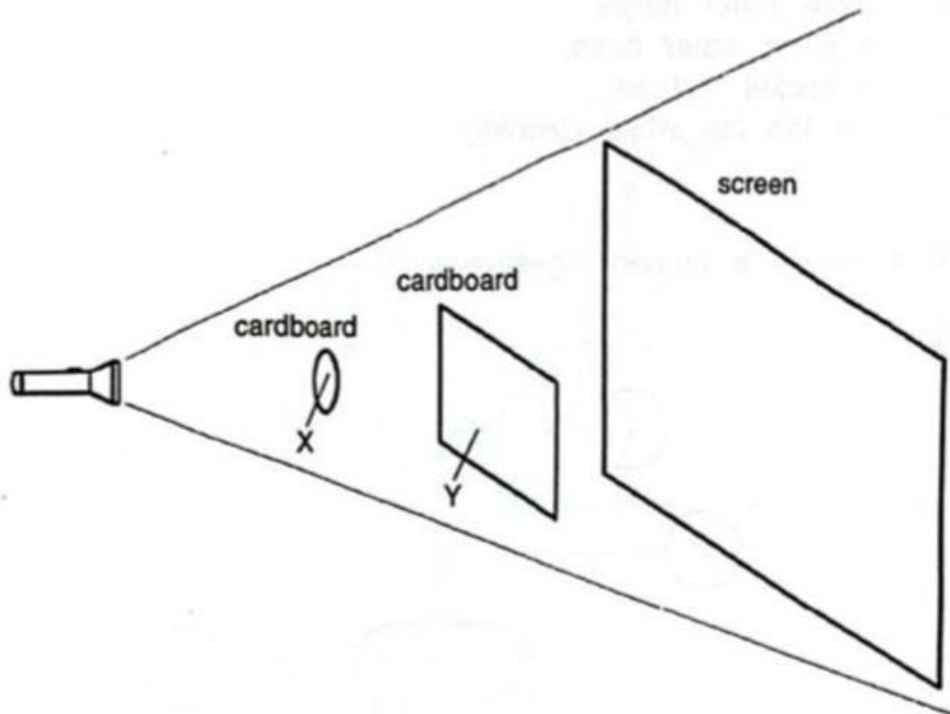
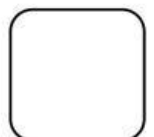


Figure 9

Which of the following correctly shows the shadow on the screen?

screen	screen	screen	screen
A	B	C	D



Question 26

Figure 20 shows the classification of six types of materials into groups X, Y and Z.

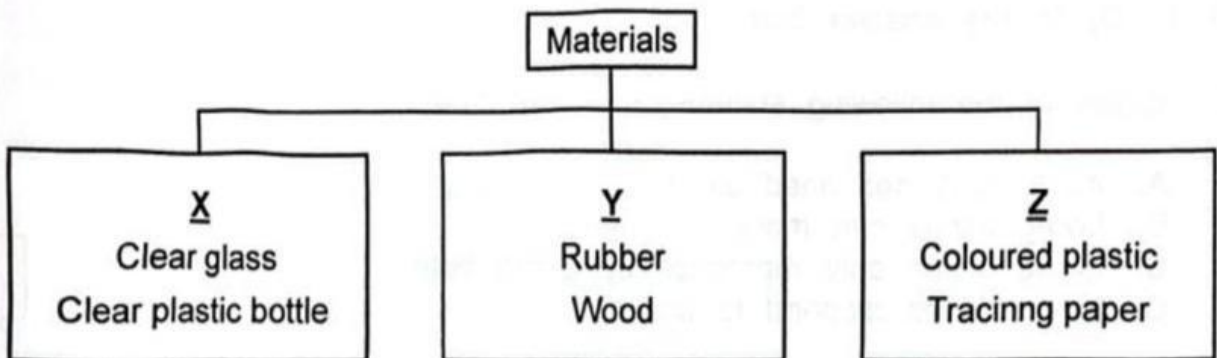
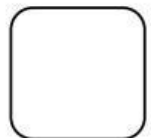


Figure 20

What does X, Y and Z represent?

	X	Y	Z
A.	Opaque	Translucent	Transparent
B.	Opaque	Transparent	Translucent
C.	Transparent	Opaque	Translucent
D.	Transparent	Translucent	Opaque



Question 27

Yazid wants to do an experiment on light. He takes out a torch, a card with a slit, a prism and a screen as shown in Figure 18a. Then, he sets up the equipment in Figure 18b.

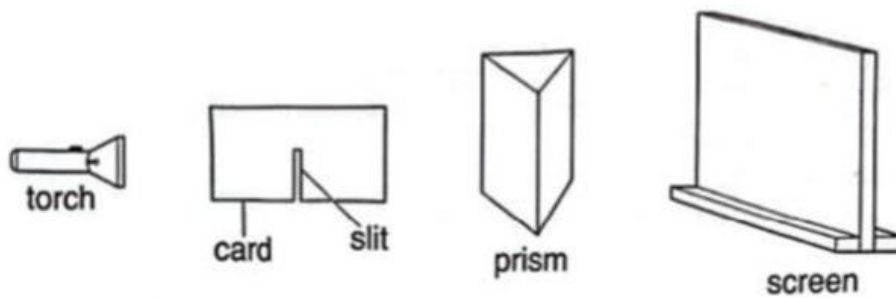


Figure 18a

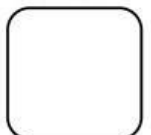


Setting up the experiment



Look at the Figure 18b. What is this experiment about?

- A. To test if light can be blocked by the prism.
- B. To test if light can be split into different colours.
- C. To test if light travels in a straight line.
- D. To test if light travels in one direction only.



Question 28