

Section A Multiple-choice Questions (15 marks)

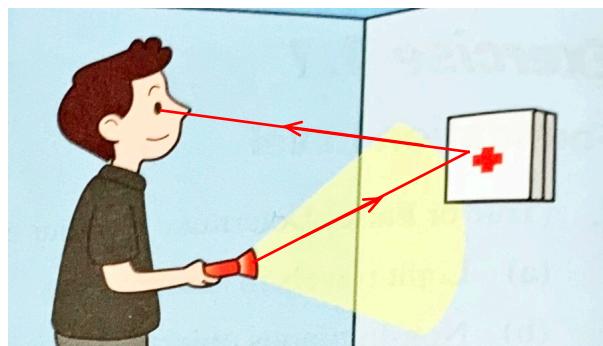
	1	2	3	4	5	6	7	8	9	10
A			✓				✓	✓		
B	✓						✓			
C		✓							✓	✓
D					✓	✓				

Section B Fill Blanks (9 marks)

(a)	<i>virtual</i>	(b)	<i>behind</i>	(c)	<i>same / equal</i>
(d)	<i>laterally</i>	(e)	<i>inverted</i>	(f)	<i>driving</i>
(g)	<i>mouth</i>	(h)	<i>reflection(s)</i>	(i)	<i>bigger / larger</i>

Section C Questions (21 marks)

1. Suddenly a blackout occurs in Mike's office. He uses a torch to search for the first-aid box.



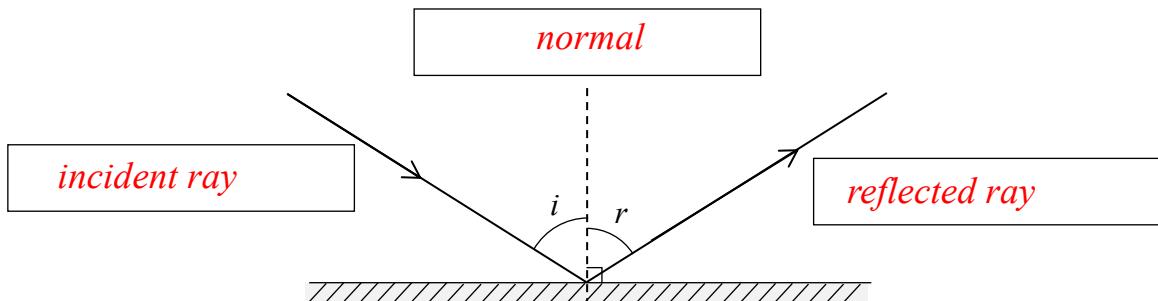
- (a) Explain how the torch can help. (2 marks)

The torch shines light on the first-aid box and the box reflects light from the torch to Mike's eyes.

- (b) In the figure above, draw light rays to show how the first aid box can then be seen.

(3 marks)

2. The diagram below shows the reflection of light by a plane mirror.



- (a) Fill the labels for the three lines in the diagram. (3 marks)

- (b) The three lines can all be shown on this sheet. How do we call this result? (2 marks)

We call this a law of reflection.

- (c) Name the two angles i and r . (2 marks)

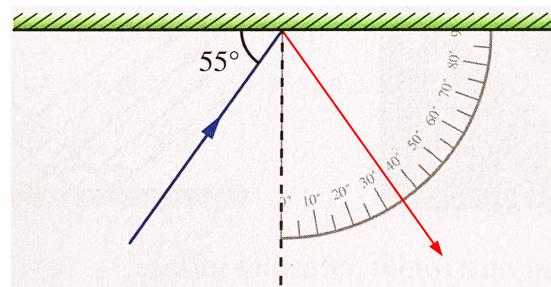
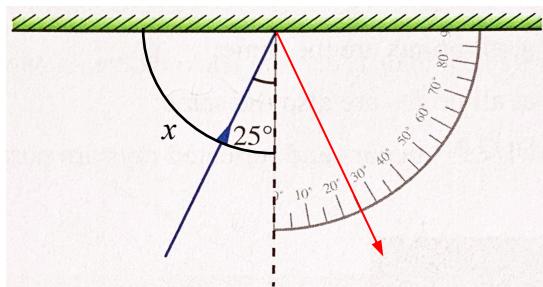
i = angle of incidence

r = angle of reflection

- (d) What is the relationship between the two angles i and r ? (1 mark)

$i = r$

3. In each of the following diagrams, a light ray hits the plane mirror. Show the reflection by adding a suitable light ray in each case. (2 marks)

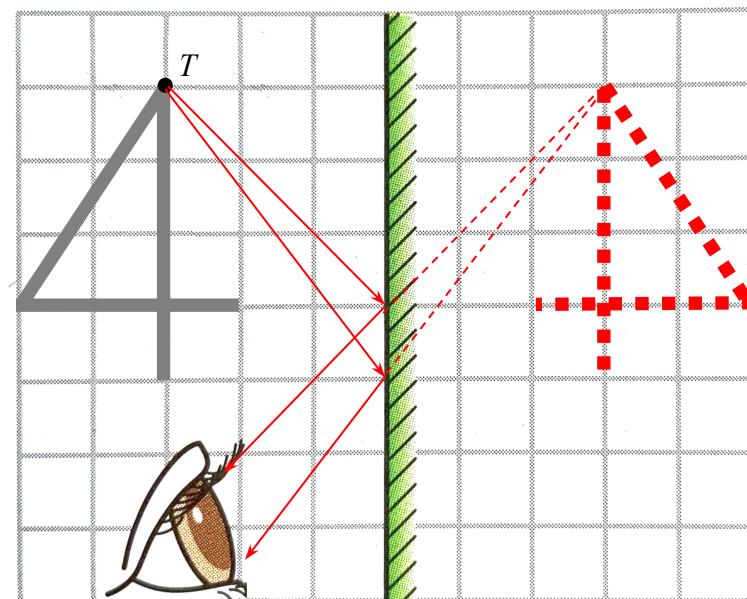


Also write down the size of angle x .

(1 mark)

90°

- 4.



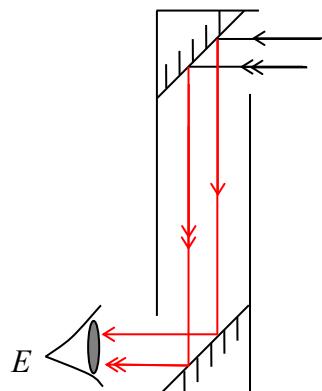
The diagram above shows an eye looking at the image of the figure '4' in the plane mirror.

- (a) Draw the whole image of the figure '4' in the diagram. (2 marks)
- (b) By drawing two rays from the top T of the figure to the plane mirror, show how the image of T can be seen by the eye. (3 marks)

Section D Bonus Question (extra 4 marks)



In the figure, a boy in a crowd uses a periscope to watch the parade. One such periscope is composed of a long box and two plane mirrors at its two ends as shown below.



- (a) Complete the two rays until they reach the eye E . (2 marks)
- (b) What property of the image seen by the periscope can you deduce from your drawing?
- The image is erect.*
- (c) What is the angle change for EACH reflection? (1 mark)

90°