

- 1 In a light experiment, a plane mirror is placed upright at the corner of a piece of graph paper, as shown in Fig. 1.1. A small lamp acts as a bright object. The lamp is placed over a point L on the edge of the graph paper that is adjacent to the mirror. Note that
- the mirror has a line drawn on its face,
 - there is a card with a vertical viewing slot.

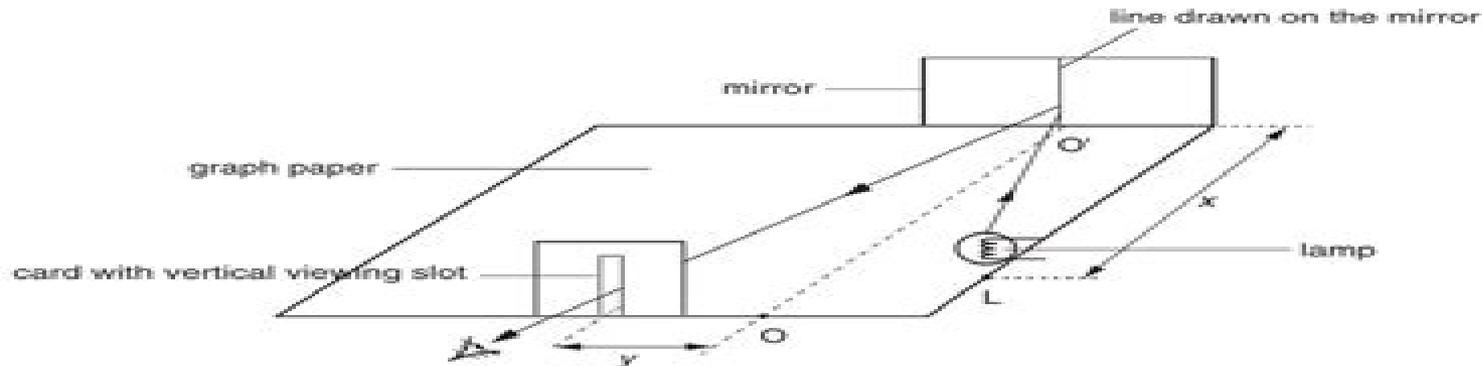


Fig. 1.1

Some of the light rays coming from the lamp are reflected from the line that is drawn on the mirror. These rays are located by looking through the slot in the card. When the card is in the correct position, the slot in the card, the line on the mirror and the lamp appear to be in one straight line.

The distances shown as y and x are measured.

In all, the experiment was performed with the lamp in four positions. These are shown in Fig. 1.2 on page 3 and are labelled L_1 , L_2 , L_3 and L_4 . The values for x are 180 mm, 150 mm, 100 mm and 50 mm.

The corresponding positions for the slot are labelled S_1 , S_2 , S_3 and S_4 .

- (a) Fig. 1.2 shows the graph paper and the positions of the lamp labelled L and the slot labelled S. Four incident rays and one reflected ray are shown.
- Complete the diagram by drawing the three remaining reflected rays.
 - For each reflected ray you have drawn, measure and record the value for y .
 - Complete the table in Fig. 1.2 by calculating the three missing values of xy .
- [3]
- (b) Explain how the viewing slot enables the student to locate the reflected ray.

.....

..... [1]

Physics Alternative To Practical Gce 2013 Paper

Norman Reid

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