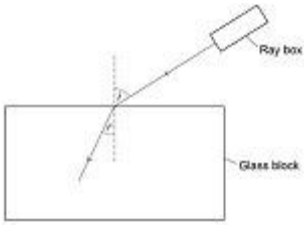
Name of the Student:_____
Max. Marks : 19 Marks **Time : 19 Minutes**

Mark Schemes

Q1.

(a) correct angle labelled

answer must indicate the angle, the letter r on it's own is insufficient



1

(b) 58 (degrees)

allow 57 to 59 inclusive

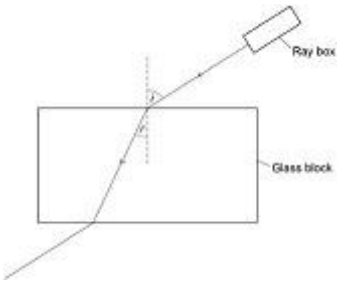
1

(c) ray continues in a straight line to the edge of the block

1

ray refracts away from the normal

1



both rays in the air should be parallel

judge by eye

1

(d) random

allow a correct answer indicated in the box provided the answer space is blank

1

(e) 25

1

(f) less than

allow a correct answer indicated in the box provided the

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answer space is blank

1

(g) there is no data/results outside of that range

allow that is all the student measured

1

(h) light would not pass through an opaque block

or

light will pass through a transparent block

an answer which does not refer to either transparent or opaque should be taken as referring to transparent

1

(i) The angles of incidence tested

1

[11]

Q2.

(a) B

1

(b) upright

1

virtual

1

(c) image height = 9.5(mm)

allow any value between 9 and 10 inclusive

allow 5 (squares)

1

object height = 24(mm)

allow 12 (squares)

1

$$\text{magnification} = \frac{9.5}{24}$$

or

$$\frac{\text{their image height}}{\text{their object height}}$$

1

magnification = 0.4

allow an answer that rounds to 0.4 provided both object height and image height are correct

or

$$\frac{\text{their image height}}{\text{their object height}}$$

ignore any units

correctly calculated

1

*an answer of 0.4 scores **4** marks*

(d) decrease

1

[8]

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