Practice Question Set For GCSE
Subject : Physics
Paper-2 Topic: GCSE Triple Science_Waves (HDQ)

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Name of the Student:_____
Max. Marks : 20 Marks **Time : 20 Minutes**

Mark Schemes

Q1.

(a) specular (reflection)

1

(b) the angle of incidence = the (mean) angle of reflection

1

(c) random

1

any **one** from:
- the student's eye / head might not be in the same position each time
  allow parallax
- the centre of the ray may not have been marked correctly
- the mirror / ray box may not have been (re)placed correctly
  allow protractor not in the correct position

  incorrect measurement of the angle(s) is insufficient

1

(d) all points on a wavefront enter the glass at the same time
allow incident ray (of light) is along the normal

1

(e) the resolution (of the protractor) is 1(°)

1

(so) could not be used to measure the difference between the results
allow (so) could not be used to measure to 1 decimal place

1

(f) different parts of the wavefront enter the glass at different times

1

the velocity / speed (of light) is less in glass

1

(so) one part of the wave front changes speed before other parts

1

[10]

Q2.

(a) **both** answers correct
answers may be in either order

virtual

diminished

allow a description of diminished (eg smaller / reduced)

1

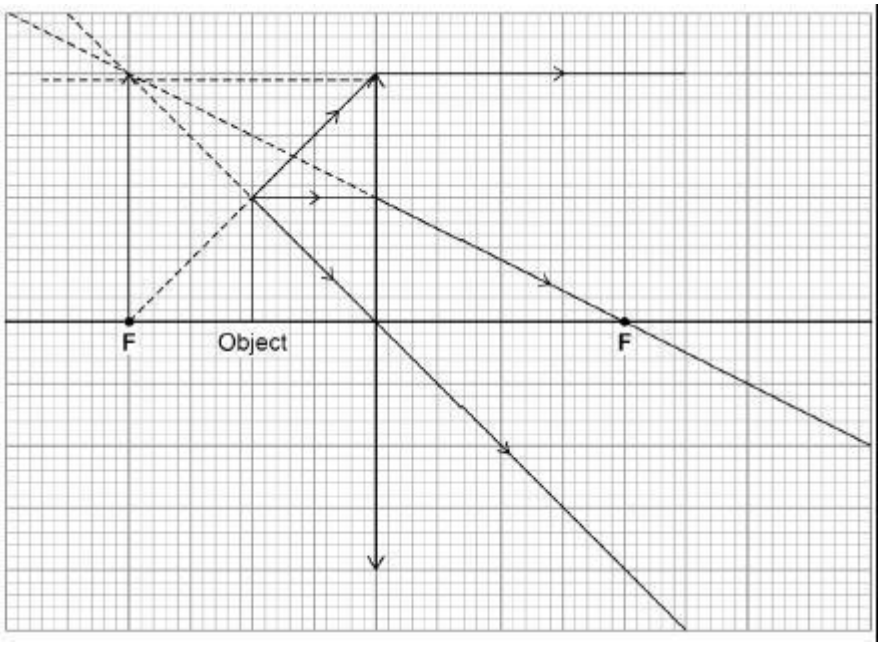
(b) any **two** correct lines drawn from the top of the object, passing through the lens and traced backwards

allow construction lines that are not dashed

*allow 1 mark for **two** correct lines drawn from the top of the object, passing through the lens BUT not traced backwards*

2

image drawn in the correct position and with the correct orientation



mark only scores if first two marks score

1

(c) (increasing the object distance) decreases the image distance more rapidly at small (object) distances / more gradually at larger (object) distances

*do **not** accept inversely proportional*

1

(d) $\frac{(2.2 - 1.4)}{2}$

1

uncertainty = (±) 0.4 (cm)

allow

$\frac{1.9 + 1.7 + 2.2 + 1.4}{4} = 1.8$ (1)

(2.2 – 1.8 =) (±) 0.4 (cm) (1)

1

(e) only red is transmitted by the filter

1

red is absorbed by the (blue) object

1

(so) no light is reflected by the (blue) object

1

[10]