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PHYSICS TUITION

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NAME : | CLASS : | DATE :

THEME : LIGHT, WAVES AND SOUND

Unit 12
LIGHT | Consolidation Worksheet 2 - Graded

1 Hello,

You have made a very important and right decision to look at this sample learning material created by Calvin Kong, a former MOE Senior Teacher in Physics with more than a decade of experience, also trained under the Research for Better Teaching, Inc. (Massachusetts) and New Teacher Centre (California).

This set of **Consolidation Worksheet (Part 2)** is designed by Calvin Kong and used to assess how much have his students learnt at that specific point in time. It is conducted as a short-timed quiz where it will be marked and graded. As what Calvin Kong repeatedly reminds his students, "Make all your mistakes in my class, and less will happen in your school".

This set of notes is designed based on numerous pedagogical research findings (theoretical) and fine-tuned based on feedback and response of students who uses them (theories put to test).

(b) Calculate the refractive index of the glass used in the lens.

refractive index = ……………

The focal length of the lens is 20 cm. An object is placed 50 cm from the lens and
formed on a screen.

(c) Explain what is meant by the *focal length* of a lens.

…………………………………………………………………………

………………………………………………………………………

…………………………………………………………………………

(d) Draw a ray diagram to show the formation of the image
cm

…..

2. The diagram shows a ray of yellow light entering a semi-circular glass block in the direction Y Th
angle of Y is 115° measured from the surface of the glass block as shown. The refractive
the glass block is 1.35.
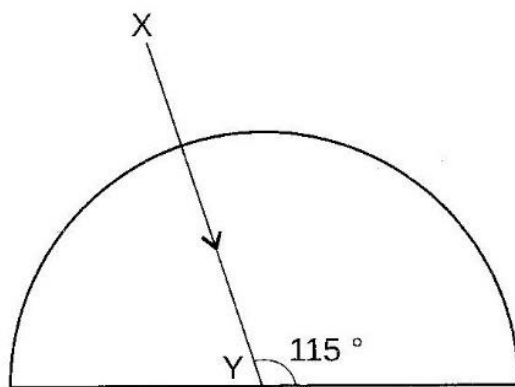
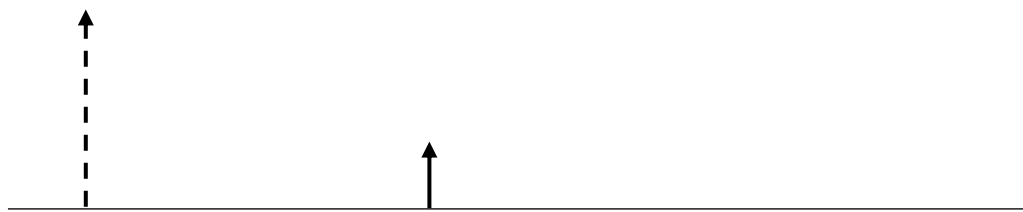**(a)** Explain why the light ray does not bend when it enters

....

....

(b) Calculate the angle of refraction of the yel'

(c) At Y, some light is refl

(d) By how much deg
reflection?

angle change = ………………………….. [2]

3. Fig 5.1 (an actual 1:1 scaled diagram) shows an object and its corresponding virtual image wh the object is placed in front of a thin converging lens.

Fig 5

(a) Add rays to the diagram to locate the

    (i) optical centre of the lens and

    (ii) focal point.

(b) Suggest one instrument which

…………………………………

………………………

> **The End**
>
> It is recommended that you continue to look at the all-time favourite among all of Calvin Kong's students – the **2-Paged Summary**