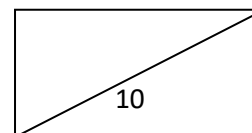
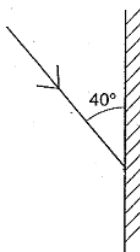


Reflection & Refraction of Light Diagnostic Quiz

Name : _____ () Date : _____



1. The diagram shows a ray of light being directed at a plane mirror. What are the angles of incidence and reflection?



	angle of incidence	angle of reflection
A	40°	40°
B	40°	50°
C	50°	40°
D	50°	50°

[]

2. What is the refractive index of a medium?

A the ratio of the speed of light in air to the speed of light in the medium

B the ratio of the speed of light in the medium to the speed of light in air

C the ratio of the speed of light in the medium to the speed of light in vacuum

D the ratio of the speed of light in vacuum to the speed of light in the medium []

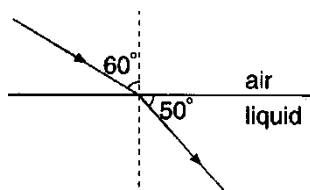
3. A light ray does not undergo refraction at a boundary between two media of different optical densities if its angle of incidence is _____ .

A 0° **B** 45°

C 90° **D** 180°

[]

4. The diagram shows a ray of light incident on the surface of a liquid and its subsequent path.



The refractive index of the liquid is given by

A $\frac{\sin 60^\circ}{\sin 50^\circ}$

B $\frac{\sin 30^\circ}{\sin 50^\circ}$

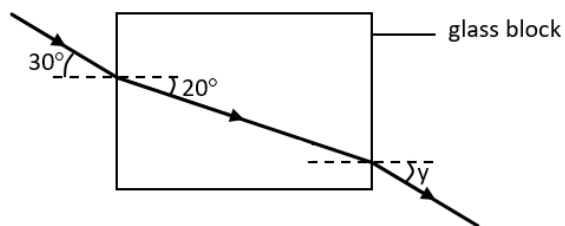
C $\frac{\sin 60^\circ}{\sin 40^\circ}$

D $\frac{\sin 40^\circ}{\sin 60^\circ}$

[]

Reflection & Refraction of Light Diagnostic Quiz

5. The figure below shows the path of a light ray from air into a glass block.



- (a) Calculate the refractive index, n , of the glass.

$$n = \dots\dots\dots [1]$$

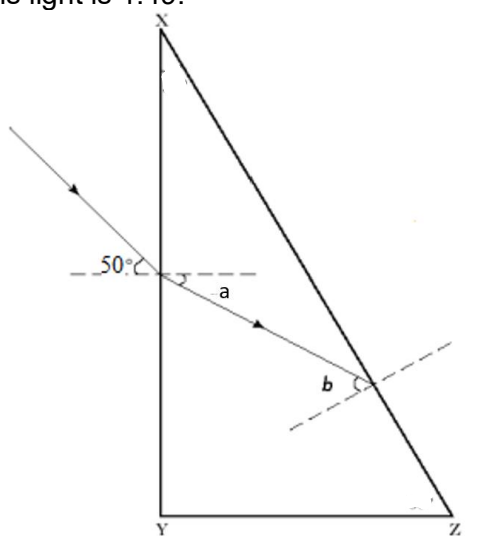
- (b) Given that the speed of light in air is 3.0×10^8 m/s, calculate the speed of light, v , in glass.

$$v = \dots\dots\dots [1]$$

- (c) State the value of angle y .

$$y = \dots\dots\dots [1]$$

6. The figure below shows a ray of light entering at the face **XY** of a glass prism. The refractive index of the glass for this light is 1.49.



- (a) Calculate angle a . [1]

- (b) Calculate the critical angle for the glass. [1]

- (c) At face **XZ**, the angle of incidence b is 59° . Sketch what happens to the ray of light at face **XZ**. [1]