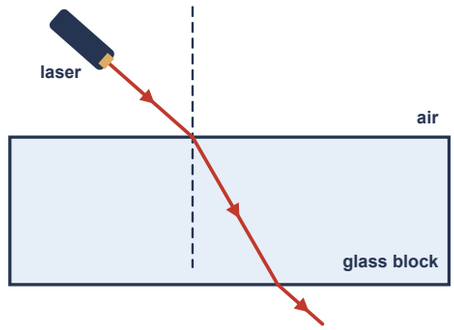
Refraction

A laser shines into a glass block



1. Measure the angle of incidence, ***i***.

   _____ °

2. Measure the angle of refraction, ***r***.

   _____ °

3. Calculate ***n***, the refractive index of the glass.

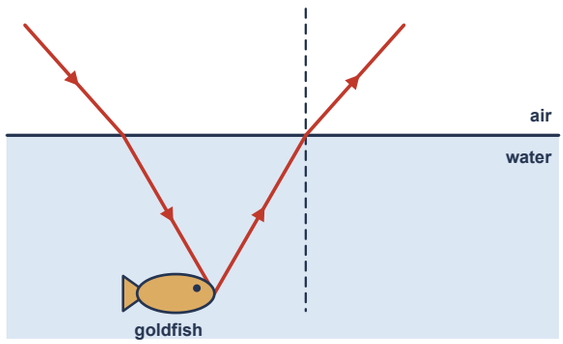
REFRACTIVE INDEX

$n =$ _____

CRITICAL ANGLE

$\sin c =$ _____

Example — light from a goldfish



Light reflected from the goldfish travels up through the water and out into the air.

4. Measure the angle of incidence, ***i***.

   _____ °

5. Measure the angle of refraction, ***r***.

   _____ °

6. Calculate ***n***, the refractive index of water.

HINT

n is always **1 or bigger**

Exam-style question

This question is about light. Diagram 1 shows a light ray entering a glass prism.

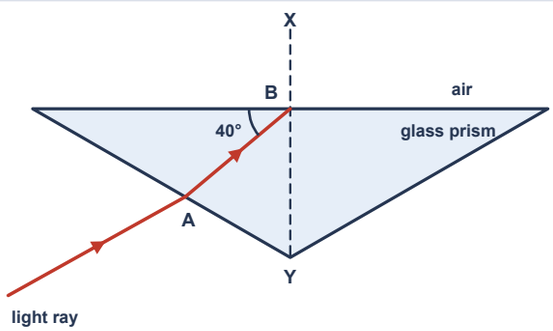


Diagram 1

USE THESE WORDS IN (A)(I)

- ☐ speed decreases
- ☐ refraction
- ☐ towards the normal
- ☐ denser medium
- ☐ changes direction

(a) (i) Describe what happens to the light ray when it enters the prism at point A. **(2)**

(ii) State the name of line XY. **(1)**

(iii) Draw the normal at point A. Measure the angle of incidence and the angle of refraction at A. **(2)**

i = _____ ° **r =** _____ °

(iv) Use your answers to (iii) to calculate the refractive index of the glass. **(2)**

(b) The critical angle for this glass is 42°. Explain what happens to the light ray when it reaches point B. **(3)**

(Total for question = 10 marks)