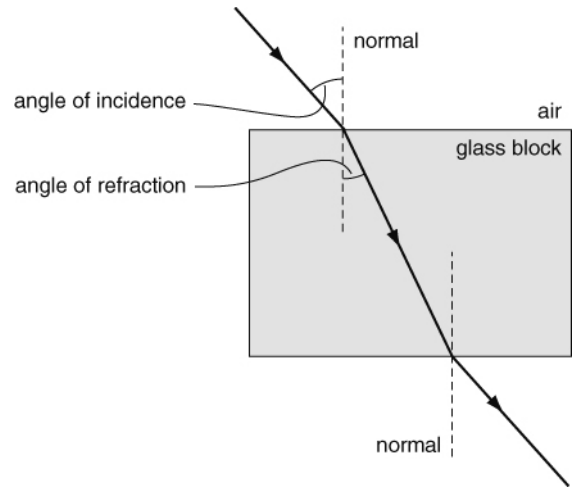


Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

1 The normal is a line at right angles to the edge of a glass block. We measure the angles of light rays from the normal.

The diagram shows two different angles of incidence, and two angles of refraction, but only one of each is labelled. Label the other angles.



2 Use the word 'normal' in your answers to this question.

a Which way does the light change direction when it goes into the glass block?

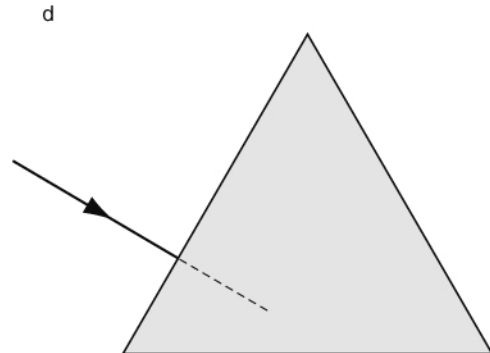
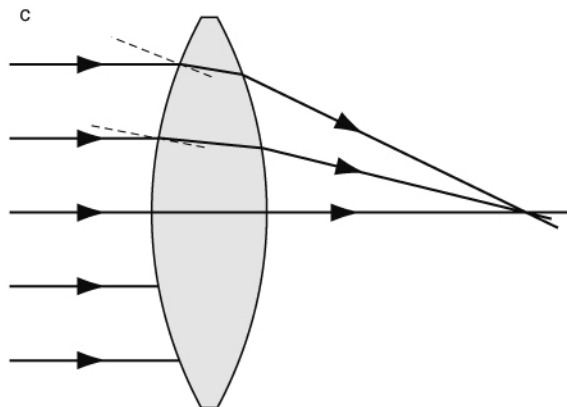
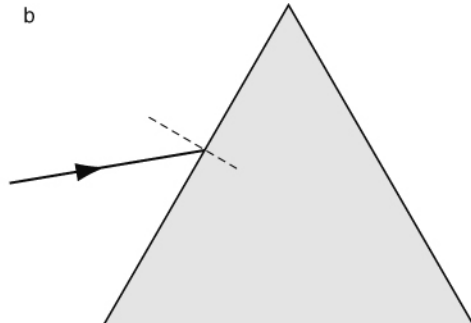
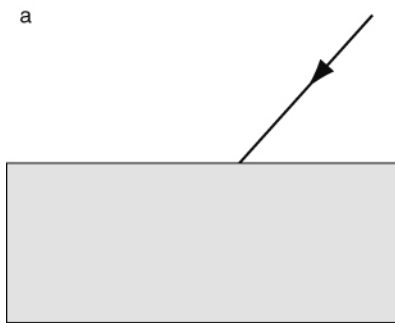
\_\_\_\_\_

\_\_\_\_\_

b Which way does it change direction when it comes out of the block?

\_\_\_\_\_

3 Draw in the missing rays on these diagrams. Remember to draw a normal at each point where the light crosses a boundary between materials. Use a ruler to help you draw the straight lines.



**I can...**

- draw ray diagrams to describe the refraction of light.