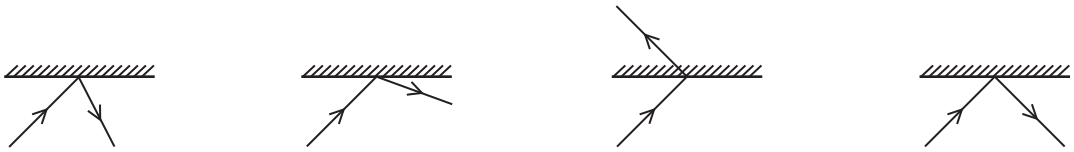
6 (a) Which diagram shows the reflection of a ray of light at a plane mirror?

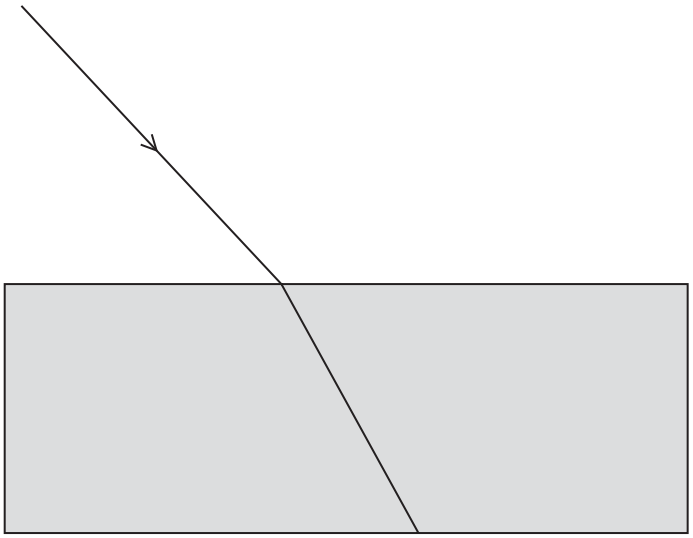
(1)



☒ **A** ☒ **B** ☒ **C** ☒ **D**

(b) The diagram below shows a ray of light as it passes from air into a glass block.

The angle of incidence is 43° and the light is refracted as shown.



(i) On the diagram, draw the normal for this refraction.

(1)

(ii) On the diagram, mark the angle of refraction.

(1)

(iii) Measure the angle of refraction.

(1)

angle of refraction = ... °

(iv) State the relationship between refractive index, angle of incidence and angle of refraction.

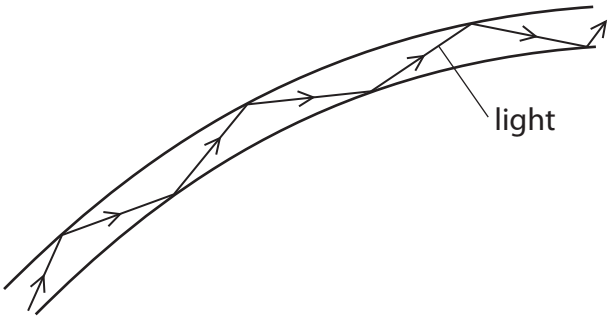
(1)

(v) Calculate the refractive index of the glass.

(2)

refractive index = ...

(c) The diagram shows how light can travel in a glass fibre.



(i) What is the name given to the effect shown?

(1)

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(ii) Explain what is happening to the light in the glass fibre.

(3)

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(Total for Question 6 = 11 marks)