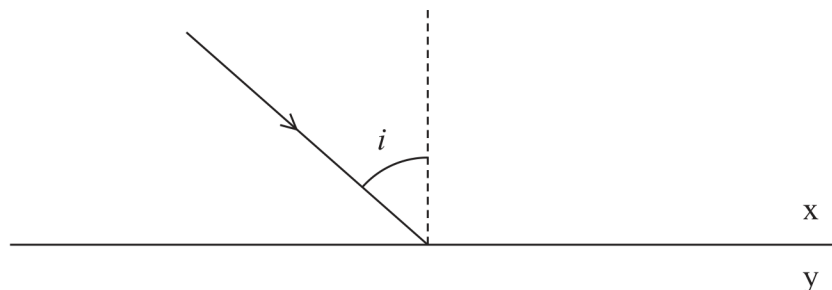


SECTION A

Answer ALL questions.

For questions 1–10, in Section A, select one answer from A to D and put a cross in the box ☐.
If you change your mind, put a line through the box ☒ and then
mark your new answer with a cross ☐.

- 1 A ray of light is incident on the boundary between two materials, x and y, as shown. The refractive index value for material x is n_x and for material y is n_y .



Which row of the table gives the conditions required for total internal reflection to take place at this boundary?

	Condition 1	Condition 2
<input type="checkbox"/> A	$i > \text{critical angle}$	$n_x > n_y$
<input type="checkbox"/> B	$i > \text{critical angle}$	$n_x < n_y$
<input type="checkbox"/> C	$i < \text{critical angle}$	$n_x > n_y$
<input type="checkbox"/> D	$i < \text{critical angle}$	$n_x < n_y$

(Total for Question 1 = 1 mark)