

Question Number	Answer	Mark
11a	<p>Use of $n_1 \sin \theta_1 = n_2 \sin \theta_2$ with both 1.33 and 1.52 seen (1) angle of refraction = 37° (1)</p> <p><u>Example of calculation</u> $n_1 \sin \theta_1 = n_2 \sin \theta_2$ $1.33 \sin (43^\circ) = 1.52 \sin r$ $r = 36.6^\circ$</p>	2
11b	<p>Use of $\sin C = 1/n$ (1) critical angle = 61° (1)</p> <p>OR</p> <p>Use of $\sin C = 1 / 1.14$ (if ratio calculated in (a)) (1) critical angle = 61° (1)</p> <p>(Allow an ecf of n_1 / n_2 ratio from (a))</p> <p><u>Example of calculation</u> $\sin C = 1/n$ $C = \sin^{-1} (1.33/1.52) = 61.0^\circ$</p>	2
Total for question 11		4