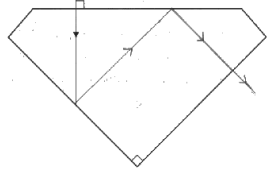
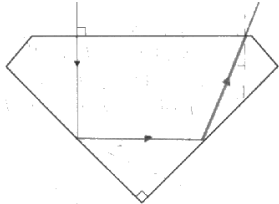
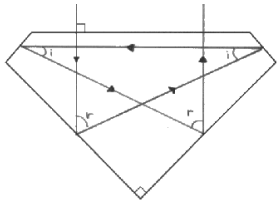


Question number	Answer	Notes	Marks
6 (a)	<p>MP1. any internal reflection at first surface;</p> <p>MP2. approximately correct angle of reflection at first surface;</p> <p>MP3. ray reflects from second surface and emerges parallel to incident ray (by eye);</p>	<p>ignore arrows</p>  <p>gets MP1 only</p>  <p>gets MP1 and MP2</p>  <p>gets MP1 and MP3</p>	3
(b) (i)	$\sin(c) = 1/n$;	allow in standard symbols or in words	1
(ii)	<p>substitution; rearrangement; evaluation;</p> <p>e.g. $\sin(24^\circ) = 1/n$ $(n =) 1/\sin(24^\circ)$ $(n =) 2.5$ </p>	<p>can be in either order</p> <p>$(n =) 2.459, 2.46$ condone 2.45</p>	3
(c)	<p>any sensible use;</p> <p>e.g.</p> <ul style="list-style-type: none"> optical fibres in {communication / sending information / decorative lamps} endoscopes safety reflector prism in {binoculars / telescope / camera / periscope / rangefinder} 	<p>allow 'broadband' for communication</p> <p>allow described use of endoscope e.g. bicycle/car reflector, cat's eye</p>	1

Total for question 6 = 8 marks