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08	4a	<p>In the diagram, XR bisects $\angle PRQ$ and $XY \parallel QR$.</p> <p>Copy or trace the diagram into your writing booklet.</p> <p>Prove that $\triangle XYR$ is an isosceles triangle.</p> <div data-bbox="911 191 1235 464"> </div>	2
<div data-bbox="412 533 886 730"> $\begin{aligned}\angle QRX &= \angle YRX \text{ (XR bisects } \angle PRQ) \\ \angle QRX &= \angle YXR \text{ (XY } \parallel \text{ QR)} \\ \therefore \angle YRX &= \angle YXR \\ \therefore \triangle XYR &\text{ is isosceles (base } \angle \text{ s equal)}\end{aligned}$ </div> <div data-bbox="997 501 1455 779"> </div>			

* These solutions have been provided by *projectmaths* and are not supplied or endorsed by the Board of Studies

Board of Studies: Notes from the Marking Centre

In the better responses, candidates presented a copy of the diagram as requested and a planned solution via annotations on their diagram prior to attempting a written response. Use of the given set of parallel lines and recognition of the correct pair of equal alternate angles led to the most succinct responses. Candidates are advised against writing an extensive list of geometric facts pertinent to the diagram as opposed to focusing on answering the given question. Some responses listed angles QXR and XRY incorrectly as alternate and therefore equal angles, in conflict with the correct solution. Candidates should also take note that a diagram with more than one triangle does not necessarily imply the intention of a proof involving similarity or congruence. Correct naming of an angle is essential when more than one angle share a common vertex, writing angle XRQ rather than just angle R .

Source: http://www.boardofstudies.nsw.edu.au/hsc_exams/