

Question		Answer	Marks	AOs	Guidance
5	(a)	$\cos A = \frac{100^2 + 120^2 - 135^2}{2 \times 100 \times 120}$ <p><math>\cos A = 0.2572916\dots</math></p> <p><math>[A = ] 75.09058\dots</math></p> <p>Area = <math>\frac{1}{2} \times 100 \times 120 \times \sin(\text{their } A)</math></p> <p>5800 [m<sup>2</sup>]</p>	<p><b>M1</b></p> <p><b>A1</b></p> <p><b>A1</b></p> <p><b>M1</b></p> <p><b>A1</b></p> <p><b>[5]</b></p>	<p><b>3.1a</b></p> <p><b>1.1</b></p> <p><b>1.1</b></p> <p><b>3.1a</b></p> <p><b>1.1</b></p>	<p><math>\cos B = \frac{100^2 + 135^2 - 120^2}{2 \times 100 \times 135}</math> <b>OR</b></p> <p><math>\cos C = \frac{120^2 + 135^2 - 100^2}{2 \times 120 \times 135}</math></p> <p><math>\cos B = 0.512037\dots</math> <b>OR</b></p> <p><math>\cos C = 0.698302\dots</math></p> <p>(may be implied)</p> <p><math>B = 59.200\dots</math> <b>OR</b> <math>C = 45.7090\dots</math></p> <p>Area = <math>\frac{1}{2} \times 100 \times 135 \times \sin(\text{their } B)</math> <b>OR</b></p> <p><math>\frac{1}{2} \times 120 \times 135 \times \sin(\text{their } C)</math></p> <p>Accept answers to greater degree of accuracy</p>
5	(b)	<p>E.g. The sides might only be to the nearest 5 metres so the possible areas cover quite a big range</p> <p>E.g. The sides are no more accurate than to the nearest metre, so could be half a metre out. Taking half a metre off each side would lose more than 1 m<sup>2</sup> of area</p>	<p><b>E1</b></p> <p><b>[1]</b></p>	<p><b>3.2b</b></p>	<p>Correct explanation</p>