Topic Test 1 Mark Scheme
Sine and cosine rules - Higher

Q	Answer	Mark	Comments
1	$\dfrac{a}{\sin A} = \dfrac{b}{\sin B}$	B1	
2	$a^2 = b^2 + c^2 - 2bc\,\cos A$	B1	
3	$\dfrac{1}{2}bc\,\sin A$	B1	
4	$\dfrac{1}{2} \times 8 \times 14 \times \sin A = 28$	M1	
	30	A1	
5	$\dfrac{9}{\sin 48} = \dfrac{5}{\sin C}$	M1	oe
	$\text{Sin}C = \dfrac{5 \times Sin\,48}{9}$	M1	
	[24.2, 24.4]	A1	
6	$\dfrac{\sqrt{3}}{2} - \dfrac{1}{\sqrt{2}}$	M1	
	$\dfrac{\sqrt{3}}{\sqrt{2}\sqrt{2}} - \dfrac{\sqrt{2}}{\sqrt{2}\sqrt{2}}$	M1dep	
	$a = 3$	A1	
	$b = 2$	A1	

Q	Answer	Mark	Comments
7	$\dfrac{15 \times 6}{2}$ or 45	M1	
	$\dfrac{1}{2} \times 12 \times 16 \times \sin 75$ or 92.7(…)	M1	
	their 45 + their 92.7(…)	M1dep	
	137.7(…)	A1	

Q	Answer	Mark	Comments
8	135 seen or used	B1	May be shown by diagram
	$5^2 + 6^2 - (2 \times 5 \times 6 \times \cos$ their 135)	M1	
	103.4	A1	
	[10.1, 10.2]	A1	