Q	Answer	Mark	Comments
1(a)	**Alternative method 1**		
	15^2 or 225 **and** 7^2 or 49 or 274	M1	
	$\sqrt{7^2+15^2}$ or $\sqrt{49+225}$	M1dep	
	16.55(…) or 16.6 or $\sqrt{274}$	A1	accept 17 with M2 awarded
	Alternative method 2		
	$\tan^{-1}\frac{7}{15}$ or 25.0…	M1	
	$\frac{15}{\cos(\text{their } 25...)}$ or $\frac{7}{\sin(\text{their } 25...)}$	M1dep	
	16.55(…) or 16.6	A1	accept 17 with M2 awarded
	Alternative method 3		
	$\tan^{-1}\frac{15}{7}$ or 64.98… or 65	M1	
	$\frac{15}{\sin(\text{their } 64.98...)}$ or $\frac{7}{\cos(\text{their } 64.98...)}$	M1dep	
	16.55(…) or 16.6	A1	accept 17 with M2 awarded

	Additional Guidance	
1(a) cont	Allow rounding or truncation after correct answer seen eg1 16.55, Answer 16 eg2 $\sqrt{274}$, Answer 16.5	 M2A1 M2A1
	Misconception of square root eg $\sqrt{274} = 137$	M2A0
	$15^2 - 7^2$	M1M0A0
	$\sqrt{176}$ without seeing 15^2 or 225 **and** 7^2 or 49	M0M0A0

Q	Answer	Mark	Comments
1(b)	It is more than 90°	B1	

Q	Answer	Mark	Comments
2	**Alternative method 1**		
	16^2 or 256 and 30^2 or 900	M1	oe implied by 1156
	$\sqrt{16^2+30^2}$ or $\sqrt{256+900}$ or $\sqrt{1156}$ or 34	M1dep	oe eg $\sqrt{16^2+30^2-2\times16\times30\times\cos 90}$
	52 × their 34 or 1768	M1dep	oe if M1M0 their 34 can be any value other than 16, 30 or 52 dep on 1st M
	0.5 × 30 × 16 or 240	M1	oe eg 0.5 × 30 × 16 × sin 90
	2008	A1	SC3 2248
	Alternative method 2		
	$\tan^{-1}\frac{16}{30}$ or [28, 28.1] or $\tan^{-1}\frac{30}{16}$ or [61.9, 62]	M1	oe may be on diagram
	$\frac{30}{\cos(\text{their } [28, 28.1])}$ or $\frac{16}{\cos(\text{their } [61.9, 62])}$ or 34	M1dep	oe eg $\frac{16}{\sin(\text{their } [28, 28.1])}$ or $30\cos(\text{their } [28, 28.1]) + 16\cos(\text{their } [61.9, 62])$
	52 × their 34 or 1768	M1dep	oe if M1M0 their 34 can be any value other than 16, 30 or 52 dep on 1st M
	0.5 × 30 × 16 or 240	M1	oe eg 0.5 × 30 × 16 × sin 90
	2008	A1	SC3 2248

	Additional Guidance	
2 cont	Up to M4 may be awarded for correct work with no, or incorrect answer, even if this is seen amongst multiple attempts	
	The 4th mark in Alts 1 and 2 is not dependent on any other marks	
	34 or 1768 or 240 may be on the diagram	
	SC3 is for using 30 × 16 for the area of the triangle	
	Ignore units	

Q	Answer	Mark	Comments
3	14^2 or 196 **and** 9^2 or 81 or 115	M1	implied by 277 or $\sqrt{277}$ or 16.6(4…)
	$\sqrt{14^2-9^2}$ or $\sqrt{196-81}$ or $\sqrt{115}$	M1dep	
	10.7(2…)	A1	accept 11 with M2 seen
	Additional Guidance		
	Ignore incorrect rounding or truncation once correct answer seen		M1M1A1
	Answer 10.7(2…) with no working		M1M1A1
	Answer 10.7(2…) from trigonometry or accurate drawing		M0M0A0

Q	Answer	Mark	Comments
4	24^2 or 576 **and** 31^2 or 961 or 1537	M1	ignore units
	$\sqrt{24^2+31^2}$ or $\sqrt{576+961}$ or $\sqrt{1537}$	M1dep	
	39.2(…)	A1	accept 39 with 1537 seen or M2 awarded
	Additional Guidance		
	M1 may be awarded for correct work, with no or incorrect answer, even if this is seen amongst multiple attempts		
	$31^2 - 24^2$		M1M0A0
	$\sqrt{385}$ without seeing 24^2 or 576 **and** 31^2 or 961		M0M0A0
	Answer only 39.2		M2A1
	Answer only 39		M0
	39.2 from only accurate drawing		M0M0A0
	39.2 from only trigonometry		M0M0A0
	39.2 from only cosine rule		M1M0A0