

Q1. (2017)

A)

15(a)	Identifies error in working	B1	eg $2y^2$ should be $4y^2$ 2 should be 4 2 should be squared Should have worked out $(2y)^2$ but has only worked out y^2
	Additional Guidance		
	Answer may be seen next to Sami's method below the diagram		
	Adding brackets around $2y$ to Sami's working in line 2 (working lines may be blank)		B1
	Showing the error being corrected eg1 $(2y)^2 = 100$ and $2y = 10$ eg2 $4y^2 = 36 + 64$		B1 B1
	She hasn't squared the bracket		B1
	Has only squared y		B1
	The brackets have been left out		B1
	$(2y)^2$ is not equal to $2y^2$		B1
	Should have square rooted 100 before dividing by 2 because the $2y$ should not have been taken out of the bracket		B1
	Should have square rooted 100 before dividing by 2 (could be referring to working from line 3 to line 4)		B0
	Line 2 is wrong (has not identified which part of line 2 is wrong)		B0
	Answer should be $y = 5$ (has not shown what the error is)		B0
	Ignore non-contradictory work if correct response seen		

B)

15(b)	No and valid reason	B1	eg No and the hypotenuse is 10 No and $2y$ is 10 No and if you double y it is more than 8
	Additional Guidance		
	Valid reason must be for Mel's argument		
	Neither box ticked with valid reason can score B1 if decision in words eg $2y$ is 10 so Mel is wrong		B1
	No and she didn't double it to 10		B1
	No and she didn't double y		B0
	No and she has to double 5 which makes it 10		B1
	No and she has to double 5		B0
	No and the hypotenuse is $2y$ so that's more than 8		B1
	No and the hypotenuse is $2y$		B0
	No and the hypotenuse is the longest side		B0
	No and y is 5		B0
	No and if you double y it is more than 6 and 8		B1
	No and if you double y it is more than 6		B0
	Yes and valid reason		B0

Q2. (2019)

7	Alternative method 1		
	8^2 or 64 and 17^2 or 289	M1	
	$\sqrt{17^2 - 8^2}$ or $\sqrt{225}$ or 15	M1dep	oe implies M2 may be seen on diagram
	$8 \times 3 \times \text{their } 15$ or $24 \times \text{their } 15$	M1dep	dep on M2 oe eg $(8 + 16) \times \text{their } 15$ or $0.5 \times 8 \times \text{their } 15 \times 6$
	360	A1	SC2 [448.8, 456]
	Alternative method 2		
	$\cos C = \frac{8}{17}$ or $C = [61.9, 62]$	M1	may be seen on diagram
	$17 \times \sin \text{their } [61.9, 62]$ or $[14.9, 15.1]$	M1dep	may be seen on diagram oe eg $8 \times \tan \text{their } [61.9, 62]$
	$8 \times 3 \times \text{their } [14.9, 15.1]$ or $24 \times \text{their } [14.9, 15.1]$ or $[357.6, 362.4]$	M1dep	dep on M2 oe eg $(8 + 16) \times \text{their } [14.9, 15.1]$ or $0.5 \times 8 \times \text{their } [14.9, 15.1] \times 6$
	360	A1	SC2 [448.8, 456]
	Alternative method 3		
	$\sin A = \frac{8}{17}$ or $A = [28, 28.1]$	M1	may be seen on diagram
	$17 \times \cos \text{their } [28, 28.1]$ or $[14.9, 15.1]$	M1dep	may be seen on diagram oe eg $8 \div \tan \text{their } [28, 28.1]$
	$8 \times 3 \times \text{their } [14.9, 15.1]$ or $24 \times \text{their } [14.9, 15.1]$ or $[357.6, 362.4]$	M1dep	dep on M2 oe eg $(8 + 16) \times \text{their } [14.9, 15.1]$ or $0.5 \times 8 \times \text{their } [14.9, 15.1] \times 6$
	360	A1	SC2 [448.8, 456]

Q3. (2024)

Q	Answer	Mark	Comments
18	Alternative method 1: only uses trigonometry		
	$\cos 52 = \frac{x}{23.7}$	M1	oe eg $\sin(90 - 52) = \frac{x}{23.7}$ or $\frac{x}{\sin 38} = \frac{23.7}{\sin 90}$ accept [0.61, 0.62] for $\cos 52$ or $\sin 38$
	$23.7 \times \cos 52$	M1dep	oe eg $23.7 \times \sin 38 \div \sin 90$ accept [0.61, 0.62] for $\cos 52$ or $\sin 38$
	[14.59, 14.6]	A1	SC1 [18.4, 18.723]
	Alternative method 2: uses trigonometry and Pythagoras		
	23.7^2 and $(23.7 \times \sin 52)^2$ or [561.6, 561.7] and [338, 351]	M1	oe accept [0.78, 0.79] for $\sin 52$ accept [18.4, 18.723] for $23.7 \times \sin 52$
	$\sqrt{23.7^2 - (23.7 \times \sin 52)^2}$ or $\sqrt{[210.6, 223.7]}$	M1dep	oe accept [0.78, 0.79] for $\sin 52$ accept [18.4, 18.723] for $23.7 \times \sin 52$
	[14.59, 14.6]	A1	SC1 [18.4, 18.723]
	Additional Guidance		
	M1 may be awarded for correct work with no answer or incorrect answer, even if this is seen amongst multiple attempts		
	SC1 is from a diagonal making an angle of 38° with x		