

Q1. (2017)

20	$\sqrt{64}$ or 8 or $64 = 8 \times 8$	M1	Implied by a diameter or side length of 8 stated or shown on the diagram, or radius of 4 stated or used or shown on the diagram
	$\pi \times (\text{their } 8 \div 2)^2$ or $\pi \times 4^2$ or $\pi 4^2$ or [50.24, 50.272]	M1dep	oe Allow [3.14, 3.142] for π
	16π	A1	Condone $16 \times \pi$ or $\pi \times 16$ or $\pi 16$
Additional Guidance			
$64 - 16\pi$		M1M1A0	
Beware of incorrect methods which lead to the correct answer eg $r = 8$, $2 \times \pi \times 8 = 16\pi$ $\sqrt{64} = 8$, $8^2 = 16$, 16π		M0M0A0 M1M0A0	

Q2. (2018)

7 cont	Alternative method 3		
	One row of 4 squares drawn or one column of 3 squares drawn	M1	Mark intention, not accuracy of drawing, 2m labels not required
	Rectangle split into 4 columns and 3 rows	A1	
	Additional Guidance		
	$(2 \times 2 = 4, 6 \times 8 = 48 \text{ and } 4 \text{ is } \frac{1}{12} \text{ of } 48)$	M1A1	
	4 12s are 48	M1A1	
	$8 \times 6 = 48$, $12 \div 48 = 4$ (cannot condone incorrect order as 'show that')	M1A0	
	$\frac{4}{48}$ so correct	M1A0	
	Beware 4 (or 12) arising from incorrect working eg $2 + 2 = 4$, $8 + 6 = 14$, $14 - 2 = 12$	M0A0	
	$2 \times 2 + 2 \times 2 = 8$ (misconception on area of rug) cannot score for 2×2	M0A0	
	$6 \times 8 = 48$ and $48 \times 2 = 96$ (ignore additional 'method' and give M1 for 48) $6 \times 8 = 48$ and $48 \div 2 = 24$ (ignore additional 'method' and give M1 for 48) $6 \times 8 \times 2$ (ignore additional 'method' and give M1 for 6×8)	M1A0	
	$6 \times 8 = 48$ and $48 \div 2 \div 2 = 12$ (equivalent to dividing by 4)	M1A1	
	Ignore references to perimeter or units if it is clear they are working out area		

Q3. (2020)

Q	Answer	Mark	Comments
15	Alternative method 1		
	4×10 or 40	M1	
	$68 - 4 \times 10$ or $68 - 40$ or 28	M1dep	oe
	their $28 \div 4$ or 7	M1dep	oe
	49	A1	
	Alternative method 2		
	$68 \div 4$	M1	
	17	A1	
	their $17 - 10$ or 7	M1dep	dep on M1
	49	A1	
	Additional Guidance		
	Check for working on diagram		

Q4. (2022)

Q	Answer	Mark	Comments
25	$20^2 (\times \pi)$ or $400 (\times \pi)$ or $15^2 (\times \pi)$ or $225 (\times \pi)$	M1	oe
	$\frac{3}{4} \times 20^2 (\times \pi)$ or $300 (\times \pi)$ or $\frac{1}{3} \times 15^2 (\times \pi)$ or $75 (\times \pi)$	M1dep	oe
	$\frac{3}{4} \times 20^2 (\times \pi)$ or $300 (\times \pi)$ and $\frac{1}{3} \times 15^2 (\times \pi)$ or $75 (\times \pi)$	M1dep	
	$300 (\times \pi)$ and $75 (\times \pi)$ and 4	A1	Accept $P = 4Q$ for 4 SC2 $40 (\times \pi)$ and $30 (\times \pi)$ and $30 (\times \pi)$ and $10 (\times \pi)$ and answer 3
	Additional Guidance		
	Answer 4 with no working		M0A0
	Condone inconsistent use of π eg 300π and 75 and 4		M3A1
	Condone, for example, $\pi 400$ for 400π		
	Allow use of a numerical value for π for method marks and for the A mark with answer 4		
	Ignore units throughout		

Q5. (2023)

Q	Answer	Mark	Comments
2(c)	15	B1	

Q6. (2024)

Q	Answer	Mark	Comments
18	$\frac{1}{2} \times 20 \times 6.3$	M1	oe
	63	A1	
	Additional Guidance		
	Ignore units		