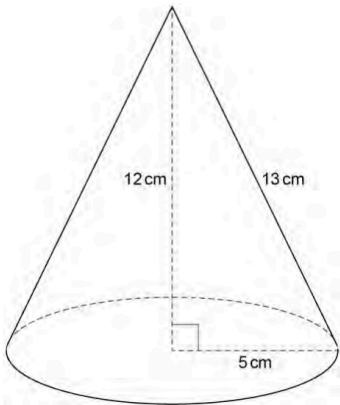


Q1. (2017)

1	210	B1	
	Additional Guidance		

Q2. (2024)

22 Here is a cone.



(A)

Q	Answer	Mark	Comments
22a	Correct statement	B1	eg she used the height instead of the slant height or she used the vertical height or she used 12 (instead of 13)
	Additional Guidance		
	Check diagram		
	For 'vertical' accept anything that implies she has used the wrong height		
	Condone 'length' to mean 'height' or 'slant height'		
	12 or 13 circled on the diagram must be accompanied by a supporting statement		
	Indicates '12' in the calculation	B1	
	She should have done $\pi \times 5 \times 13$	B1	
	It should be 65π	B1	
	She used the wrong height / the (value of) π is wrong	B1	
	She hasn't used the slant height (she used the (vertical) height)	B1	
	She hasn't used the 13	B1	
	She hasn't used the 13 and should be $5 \times 12 \times 13 \times \pi$	B0	
	The multiplication used the wrong number(s)	B0	
	She hasn't used a value for π	B0	
	An incorrect statement with a correct statement eg she used 13 instead of 12 and didn't square the radius	B0	

(B)

Q	Answer	Mark	Comments
22b	$\pi \times 5 \times 5$ or 25π or $3 \times 5 \times 5$	M1	oe accept [3.14, 3.142] or $\frac{22}{7}$ for π
	75	A1	
	Additional Guidance		
	$\pi 25$		M1

(C)

Q	Answer	Mark	Comments
22c	'More than' indicated or implied by statement and valid reason	B1	eg valid reasons 3.14 is greater (than 3) Beth's number is bigger (than Adam's) (the correct answer is) 78.5 (with their answer to (b) less than 78.5)
	Additional Guidance		
	If calculations are used, the outcomes must be correct		
	Accept 78 or 79 for 78.5 unless from incorrect working		
	'Less than' indicated		B0
	Do not penalise use of the same incorrect formula in (b) and (c) eg $3 \times 10 = 30$ in (b) and $3.14 \times 10 = 31.4$ in (c) with 'More than' ticked		B1
	Ignore a non-contradictory reason with a correct reason eg 3.14 is bigger than 3 and nearer the true value of pi		B1
	Acceptable reasons		
	Adam has rounded (pi) down / Adam only used 3		B1
	There is an extra 0.14 to multiply by		B1
	Her number has decimal places		B1
	Her number is to more significant figures		B1
	Non-acceptable reasons		
	3.14 will give a bigger answer / 3.14 is more accurate		B0

Q3. (2024)

Q	Answer	Mark	Comments
23	Alternative method 1		
	$\frac{1}{4} + \frac{1}{2}$ or $\frac{3}{4}$	M1	oe
	their $\frac{3}{4} \times 30$ or $\frac{90}{4}$	M1dep	oe
	$22\frac{1}{2}$ or 22.5	A1	allow 22 or 23 with correct working seen SC2 digits 225
	Alternative method 2		
	$\frac{1}{4} \times 30$ or 7.5 or $\frac{1}{2} \times 30$ or 15	M1	oe fractions or percentages
	their 7.5 + their 15	M1dep	oe
	$22\frac{1}{2}$ or 22.5	A1	allow 22 or 23 with correct working seen SC2 digits 225
	Additional Guidance		
	Using 568 ml instead of 1 pint – follow the spirit of the mark scheme		