

Question		Answer	Marks	Part Marks and Guidance	
1		$\pi \times 1.2^2 \times 3$	M1	Soi by A marks	A2 may be implied by <i>their</i> final answer
		$\frac{1}{3} \times \pi \times 1.2^2 \times 3$	M1	Soi by A marks	
		18 to 18.15 or $\frac{144}{25} \pi$ oe	A2	A1 for 13.5 to 13.6 or $\frac{108}{25} \pi$ or for 4.5 to 4.52 or $\frac{36}{25} \pi$	
		<i>Their</i> (total volume) $\times 0.79$	M2	M1 for (part volume) $\times 0.79$ soi by 10.66 to 10.75 or 3.5 to 3.6	
		14 to 14.4	A1		

2		7 times from 7.0735.. using 2000 and $\pi \times 3^2 \times 10$ or 2 and $\frac{\pi \times 3^2 \times 10}{1000}$.	5--4	For lower mark – Answer of 7.0735... rot from $2000 \div \pi \times 3^2 \times 10$ oe. There might be a slight slip in accuracy (premature approximation) and/or less structure to solution. Condone no/minimal words.
		Correct and clear method shown. Appropriate language and labelling throughout.		
		Figs $(2) \div \pi \times 3^2 \times 10$ oe		
	Knowing to divide 2 litres by <i>their</i> volume of glass. Little structure to the solution.		3-2	For lower mark – $\pi \times 3^2 \times 10$ oe
			1-0	No relevant comment

3	(a)	(i)	13	<p>3</p> <p>B2 for $12\frac{3}{4}$ or $\frac{51}{4}$ or 12.(...)</p> <p>Or M1 for $17 \times \frac{3}{4}$ or $51 \div 4$ or 17×0.75 or 4.25×3</p> <p>And B1FT for rounding up any non-integer answer >1</p> <p>If ratio method used B2 for 12 pizzas = 16 scouts Or B1 for 3 pizzas = 4 scouts or better</p>	<p>$\frac{51}{68}$ implies M1</p> <p>Calculation doesn't need to be attempted for M1</p> <p>If 'counting on' used (eg 0.75, 1.5, 2.25 ...) award B marks if 12 pizzas = 16 scouts or for 3 pizzas = 4 scouts are reached and recorded clearly</p>
		(ii)	2.21	<p>3</p> <p>M2 for 2.60 – <i>their</i> 15% Or 2.60×0.85 with attempt at long multiplication</p> <p>Or M1 for 0.26 and 0.13 seen or full method for getting 15% of 2.60</p> <p>SC2 28.73</p>	<p>If <i>their</i> 13 pizzas considered allow FT for M2 or M1 provided method is clear.</p> <p>Condone confused units for M marks (eg 2.60- (26 + 13)) Also 221 implies M2.</p>
	(b)		3240	<p>2</p> <p>B1 for 100 used</p>	

4			550.18 to 551.09 final answer	5	<p><i>Final answer must be 2dp</i> <i>For answer 550 look back for 2dp value in range to score 5</i></p> <p>M2 for $(\pi \times 2.5 \times 3) \times 8.99$ Or M1 for $\pi \times 2.5 \times 3$ soi by 23.5 to 23.6</p> <p>AND</p> <p>M2 for $(2 \times \pi \times 2.5 \times 2.4) \times 8.99$ Or M1 for $2 \times \pi \times 2.5 \times 2.4$ soi by 37.6 to 37.7</p>	<p>Ignore any extra values calculated</p> <p>May find total area first before multiplying by 8.99 Multiplying by 8.99 may be implied</p>
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