

1(a)	$\frac{1}{2}(13 + 10) \times 12$ or 138 or $\frac{1}{2} \times 10 \times 8$ or 40	M1	oe
	$\frac{1}{2}(13 + 10) \times 12$ or 138 and $\frac{1}{2} \times 10 \times 8$ or 40 or 178	M1dep	oe
	$25 \div (\text{their } 138 + \text{their } 40)$	M1dep	oe
	0.14(0...)	A1	
	Additional Guidance		

1(b)	less than and valid reason	B2	eg less than and you should be dividing by a bigger number or less than and the (actual) area is bigger B1 less than
	Additional Guidance		
	If no box is ticked, condone if less than is clearly stated in working lines		
	Wrong box or > 1 box ticked		B0
	less than and he has not included all the base		B2
	less than and it doesn't cover 100% of the base		B2
	less than and it doesn't include the parts outside the areas		B2
	less than and the area is an underestimate		B2
	less than and it is an underestimate		B1
	less than and it is only an estimate		B1
	less than and the answer to (a) is not the exact area		B1

2	$\div 8$	B1	
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Question	Answer	Mark	Comments
3	g/cm^3	B1	

Q	Answer	Mark	Comments
4	$18.9 \div 0.45$ or 42	M1	oe
	their $42 \div 7 \times 8$ or 48	M1dep	oe eg $\frac{8}{7} \times$ their 42 or $[1.14, 1.143] \times$ their 42
	$0.45 \div 9 \times 5$ or 0.25	M1	oe eg $\frac{5}{9} \times 0.45$ or $[0.55, 0.56] \times 0.45$ $\frac{8}{7} \times \frac{5}{9} \times 18.9$ oe scores M3
	12	A1	
	Additional Guidance		
	Up to M3 may be awarded for correct work with no, or incorrect answer, even if this is seen amongst multiple attempts		
	Any single calculation or set of calculations that are a correct method and lead to 12		M3
	Note that the single calculation $\frac{8}{7} \times \frac{5}{9} \times 18.9$ does not use 0.45		M3
	An oe for $\frac{8}{7} \times \frac{5}{9} \times 18.9$ is $\frac{8}{7} \times \frac{18.9}{0.45} \times \frac{5}{9} \times 0.45$		M3
	Values may be seen in ratios eg 42 : 48		M1M1

Q	Answer	Mark	Comment
5(a)	$\sqrt{784}$ or 28	M1	
	(their 28) ³ or 21 952	M1dep	21952 implies M1M1
	$10.976 \div$ their 21952 or 0.0005 or digits $10976 \div$ their 21952	M1dep	oe eg 5×10^{-4} eg $1097.6 \div$ their 21952
	0.5	A1	oe
	Additional Guidance		
	784×6 or $784 \div 6$ or $784 \div 2$		M0M0M0A0

Q	Answer	Mark	Comment
5(b)	It is less than the answer to part (a)	B1	