1	$(10-2)\times 180$ oe $(=1440)$ **or** $(6-2)\times 180$ oe $(=720)$		4	M1	for a method to find the sum of the interior angles of a decagon or a hexagon
	'1440' – 148 – 2×150 – 2×168 – 2×134 – 2×125 (=138) **or** '1440' – 1302 (= 138) **or** '720' – 148÷2 – 150 – 168 – 134 – 125 (= 69) **or** '720' – 651 (= 69)			M1	Allow omission of one angle
	360 – '138' **or** 360 – 2 × '69'			M1	
		222		A1	
	Alternative method (exterior angles)				
	360 – 2×(180 – 125) – 2×(180 – 134) – 2×(180 – 168) – 2×(180 – 150) – (180 – 148) **or** 360 – 2×55 – 2×46 – 2×12 – 2×30 – 32		4	M2	If not M2 then award M1 for at least 3 or (180 – 125) , (180 – 134) , (180 – 168) , (180 – 150), (180 – 148) **or** at least 3 of 55, 46, 12, 30, 32
	180 + '42'			M1	
		222		A1	
					Total 4 marks

2	eg $\frac{4}{AC}=\tan 35$ oe **or** $\frac{AC}{4}=\tan 55$ oe **or** $\frac{AC}{\sin 55}=\frac{4}{\sin 35}$ oe **or** $CH=\frac{4}{\sin 35}$ oe (= 6.97...) **and** $\frac{AC}{"6.97"}=\cos 35$ oe **or** $CH=\frac{4}{\sin 35}$ oe (=6.97...) **and** $AC^2 = 6.97^2 - 4^2$ oe			M1	A correct trig statement involving AC **or** trig and then Pythagoras involving AC
	$(AC=)\frac{4}{\tan 35}$ oe eg $(AC=)$ 4tan55 (= 5.71...) **or** $(AC=)\frac{4\sin 55}{\sin 35}$ **or** "6.97" × cos35 oe **or** $(AC=)\sqrt{"6.97"^2-4^2}$			M1	complete method to find AC
	$(BC=)\sqrt{"5.71"^2-5^2}$ (= 2.76...)			M1	complete method to find BC
	4 × 5 × "2.76..."			M1	method to find volume
		55.3	5	A1	accept 55.1 – 55.5
					Total 5 marks

3	$8.5^2 + 5.6^2$ (= 103.61)		3	M1	
	$\sqrt{8.5^2+5.6^2}$			M1	
		10.2		A1	Accept 10.1 to 10.2 or better
					Total 3 marks

4	$7x + 3x + 8x = 360$ oe		4	M1	M2 for $7x = 140$
	$(x =)$ 360 ÷ 18 (= 20)			M1	(140 can be on diagram)
	360 ÷ (180 – 7 × "20") oe or 360 ÷ (180 – "140") $\frac{(n-2)\times 180}{n}=7\times"20"$ oe or 360 ÷ 40			M1 for 360 ÷ exterior angle	
		9		A1	
					Total 4 marks

5	360 ÷ 8 (= 45) or 360 ÷ 5 (= 72) or 180 – (360 ÷ 8) (= 135) oe or 180 – (360 ÷ 5) (= 108) oe		4	M1 finding interior or exterior angle of octagon or pentagon Angles may be seen on diagram – but must be obtuse if interior and acute if exterior.	
	'72' – '45' (= 27) or '135' – '108' (= 27)			M1 (dep 1st M1) using a pair of interior or pair of exterior angles to find angle IBC Angle may be seen on diagram.	
	$\frac{180-'27'}{2}$ (= 76.5)			M1	
		76.5		A1	
				Total 4 marks	

6	$\frac{360}{10}$ (= 36) ext angle **or** $\frac{(10-2)\times 180}{10}$ (= 144)		4	M1	method to find interior or exterior angle. (angles may be seen on diagram)
	x = "144" – 90 (= 54) or $x = \frac{"540" - 3\times"144"}{2}$ (=54) or $x = 90 - "36" (= 54)$ 54 on the diagram is insufficient – must see working			M1	method to find x (must show it is intended to be x) eg use of int angle – 90º use of ext angle + x = 90º use of pentagon *GHIJA* All figures in " " must come from correct working
	$BAD = CDA = GDE = DGF = \frac{360 - 2\times"144"}{2}$ (= 36)			M1	A correct method to find an angle of 36º within the shape (not exterior angle) or 36º shown in correct place in diagram
	There are other correct methods. Please check for correct working.	x = 54 y = 54		A1	dep on M3 to find each of x and y and the correct value of 54 for both from correct working
					Total 4 marks
ALT	*ADG* = "144" – 2 × "36" (= 72)			M1	
	JA is parallel to *GD*			M1	
	DGA = *DAG* (y) [isosceles triangle]			M1	
	x = *DGA* = y	shown		A1	
	There are other correct methods. Please check for correct working.				**Total 4 marks**