Question	Working	Answer	Mark	Notes
9	eg $7x + 7y = 105$ – $7x - 5y = 3$ $5x + 5y = 75$ + $7x - 5y = 3$ $7(15 - y) - 5y = 3$ **or** $7x - 5(15 - x) = 3$ oe		3	M1 Correct method to eliminate x or y: coefficients of x or y the same **and** correct operation to eliminate selected variable (condone any one arithmetic error in multiplication) **or** writing x or y in terms of the other variable and correctly substituting
	"6.5" + y = 15 **or** x + "8.5" = 15 **or** 7 × "6.5" – 5y = 3 **or** $7x$ – 5 × "8.5" = 3			M1 dep Correct method to find second variable using their value from a correct method to find first variable or for repeating above method to find second variable
		$x = 6.5$, $y = 8.5$		A1oe dep on first M1
				Total 3 marks

10	(a)	$\frac{2^3}{2^7}$ **or** $2^3 \times 2^{-7}$ **or** $\frac{1}{2^4}$ **or** $\frac{1}{16}$ **and** $16 = 2^4$		2	M1
			-4		A1 Accept 2^{-4}
	(b)	$13^{-24} \times 13^5$		2	M1 for 13^{-24} or for $k = -6 \times 4 + 5$
			-19		A1 Accept 13^{-19}
					Total 4 marks

11	$V = \frac{4}{3} \times \pi \times 1.5^3$ (= 14.1(37)… or $\frac{9}{2}\pi$)		3	M1 Correct expression for volume.
	$D = \frac{109.6}{\frac{4}{3}\pi \times 1.5^3}$ oe			M1 dep
		7.75		A1 7.75 – 7.78
				Total 3 marks

NB: splitting the shape incorrectly (FDC and DEA are not straight lines) gains no marks for angles calculated from false information. However angles calculated that follow the scheme, such as $\angle EDC$ = 138° or interior angles of hexagon = 720° can be awarded. Other ways of correctly splitting the shape can be awarded full marks, eg FE to a point on AB or adding a parallel line eg from E parallel to AB NB: some students show lots of lines but actually work with the angles correctly so please check carefully.

Question	Working	Answer	Mark	Notes	
12	$\angle EDC$ = 180 − 42 (=138)		5	M1	May be marked on diagram.
	(2 × 6 − 4) × 90 (=720)			M1indep	Method to find sum of interior angles of hexagon **or** the correct sums for the interior angles of shapes used (eg 540° & 180° if the line through *FE* to point on *AB* drawn or 720° and 180° if line drawn from *E* parallel to *AB* or 540° & 180° if line through *FE* extended and joined to line through CB extended) oe
	eg "138" + 42 + 50 + 96 + 144 + *E*' = "720" **or** "138" + 42 + 50 + 96 + 144 + (360 − *E*) = "720" **or** 42 + 144 + "138" + (50 + 96) + *DEP* = "540" (where *P* is on *AB* and *FE* extended) oe			M1	dep on previous M marks Equation for *E* or E' where *E* is the obtuse angle of the hexagon and E' is the interior (reflex) angle **or** for an answer of 250 from correct working
	E' = "720" − "138" − 42 −50 − 96 − 144 (= 720 − 470 = 250) **and** *E* = 360 − "250" **or** *E* = "138" + 42 + 50 + 96 + 144 + 360 − "720" (= 830 − 720)			M1	A completely correct calculation for the correct angle *E*
		110		A1	from no incorrect working
					Total 5 marks