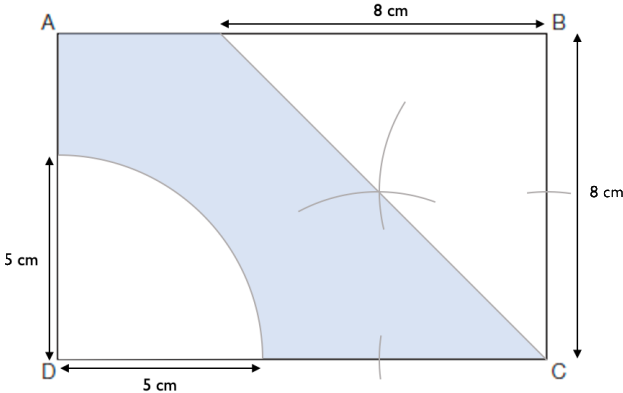


# Year 9 Autumn Higher Mark Scheme



Question	Answer	Marks	Notes and guidance
1	288	2	Award 1 mark for correct method.
	336	3	Award 2 marks for attempt to find areas of all five faces and find the total, including correct formula for area of triangle. Award 1 mark for area of at least 3 faces.
2	Correct graph of $y = 4x - 3$ drawn	4	Award 2 marks for table/list of values with at least three points correct. Award 1 mark for one correct point. Award 2 marks for fully correct graph. Award 1 mark for at least 3 of their values correctly plotted on a pair of axes.
3	$y = 6 - 2x$	2	Accept any equivalent form with $y$ as the subject e.g. $y = \frac{12-4x}{2}$ Award 1 mark for correct first step e.g. $2y = 12 - 4x$ or $2x + y = 6$
	-2	1	Follow through from their answer to the first part.
4	Indicates “ $x$ is inversely proportional to $y$ ”	1	Accept any clear indication – tick, circles, underline etc.
	25	1	
5	$8 > m$ or $m < 8$	2	Award 1 mark for fully correct method or $m = 8$

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6	$-\frac{1}{2}$ or any equivalent value	2	Award 1 mark for correct method e.g. with wrong scale.
	$y = -\frac{1}{2}x - 1$	1	Allow any correct form. Follow through from their gradient
7	$100\pi$	2	Award 1 mark for correct substitution into formula seen or implied e.g. $\frac{1}{3} \times \pi \times 5^2 \times 12$ or 314.15....
8	Correct perpendicular drawn with construction lines visible	2	Award 1 mark for correct method.
9	$b = \sqrt{c^2 - a^2}$	2	Award 1 mark for correct first step i.e. $b^2 = c^2 - a^2$
10	Completes table with $x + 2, x + 10, x + 12$	1	
	$(x + 2)(x + 10) - x(x + 12)$ $x^2 + 12x + 20 - x^2 - 12x$ 20	2	Award 2 marks for fully correct proof. Award 1 marks for attempt to multiply both sets of brackets and subtract/compare expressions.
11	<p>Correct region drawn i.e.</p> 	3	<p>Award 1 mark for quarter circle drawn from D. Award 1 mark for attempt to bisect angle BCD. Award 3<sup>rd</sup> mark for shading correct region.</p>

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12	Indicates True and justifies e.g. $3 \times -\frac{1}{3} = -1$	1	
13	3	2	Award 1 mark for equation $\pi r^2 h$ to $72\pi$ , substituting $h$ and attempting to find $r^2$ or $r$ .
14	Fully correct proof that triangles are congruent e.g.  $180 - 41 - 42 = 97$ $7 \text{ cm} = 70 \text{ mm}$ Both triangles have a side of 7 cm with angles 41 and 72, so they congruent (ASA).	3	Award 1 mark for finding missing angle in either triangle.  Award 2 <sup>nd</sup> mark for showing sides lengths are the same. Award 3 <sup>rd</sup> mark for stating they are congruent with correct condition.
15	$\frac{3}{8} \geq x$ or $x \leq \frac{3}{8}$	3	Allow 0.375 for $\frac{3}{8}$  Award 1 mark for forming correctly inequality $7 - 5x \geq 3x + 4$ or $3x + 4 \leq 7 - 5x$ Award 2 <sup>nd</sup> mark for isolating $x$ and simplifying constants e.g. $3 \geq 8x$  Do not penalise if using $>$ and $<$ instead of $\geq$ or $\leq$ .