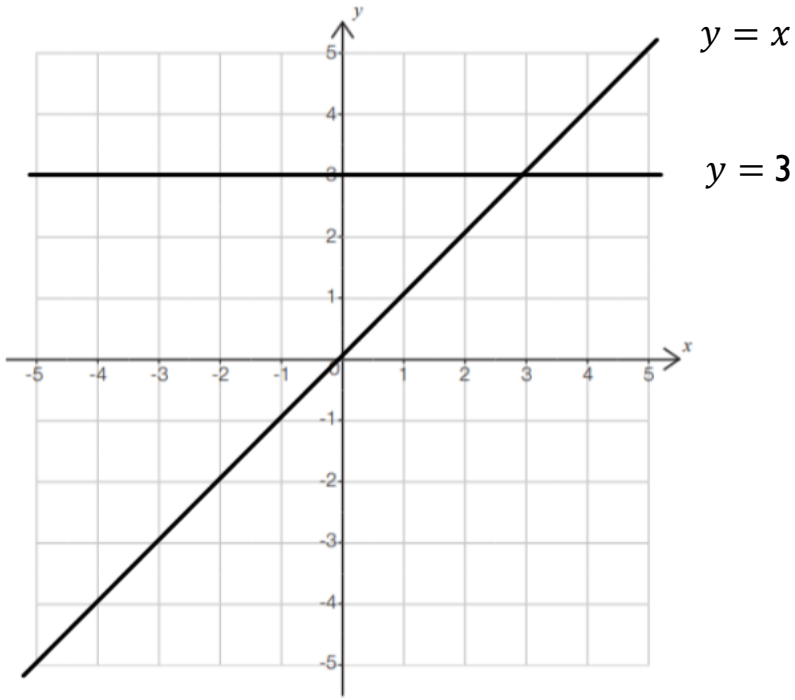
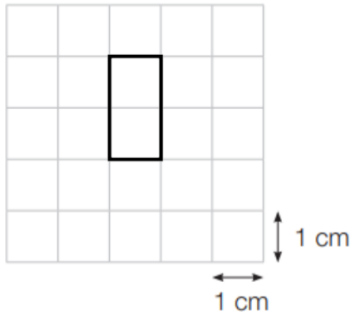
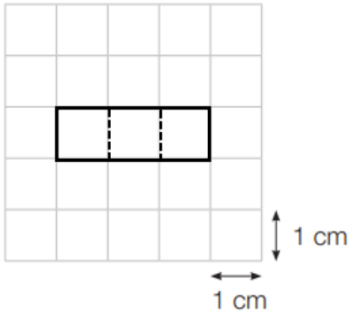
Question	Answer	Marks	Notes and guidance
1	Draws correct graphs as shown  	1 1	Award 1 mark for $y = x$ correct. Condone no label and slight inaccuracy if the intention is clear. Award 1 mark for $y = 3$ correct. Condone no label and slight inaccuracy if the intention is clear.
	(3, 3)	1	Follow through their point of intersection provided at least one graph is of the correct form.

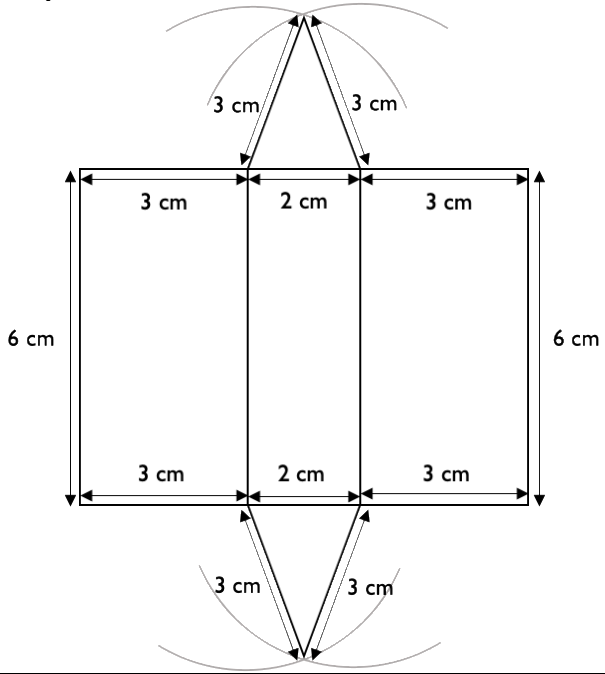
Year 9 Autumn Core Mark Scheme A

2	Indicates $9 + 2a = 23$	1	Accept any clear indication – circle, underlined etc.
	$t = 3$	3	Award 2 marks for fully correct method with one arithmetical error Award 1 mark for correct first step e.g. $5t - 12 = 3$ or $7t - 15 = 2t$
	$w > 1$	2	Award 1 mark for evidence of correct method e.g. multiplying out brackets and rearranging, or dividing both sides by 3, or $w = 1$
3	Draws a rectangle 1 cm by 2 cm e.g. 	1	Allow anywhere on the grid.
	Draws correct plan view e.g. 	1	Allow anywhere on the grid.

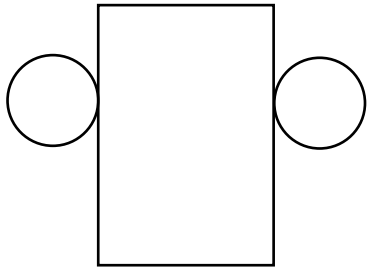
Year 9 Autumn Core Mark Scheme A

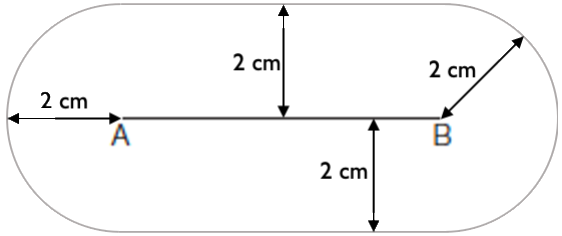
<table>
<tr><td>4</td><td>Draws accurate perpendicular bisector of AB with construction lines clearly visible</td><td>2</td><td>Award 1 mark for any correct method if incomplete, or within 2 mm.</td></tr>
<tr><td rowspan="2">5</td><td>$5x + 15 - 2x + 8$
$\equiv 3x + 23$</td><td>3</td><td>Award 1 mark for each correct expansion, 3rd mark for complete simplification.</td></tr>
<tr><td>$x^2 + 3x + 4x + 12$
$x^2 + 7x + 12$</td><td>2</td><td>Award 1 mark for any three terms correct.</td></tr>
<tr><td>6</td><td>Completes table correctly
<table><tr><th>Equation</th><th>Graph</th></tr><tr><td>$y = 3x + 2$</td><td>A</td></tr><tr><td>$y = 3x - 2$</td><td>C</td></tr><tr><td>$y = -3x + 2$</td><td>B</td></tr><tr><td>$y = -3x - 2$</td><td>D</td></tr></table></td><td>2</td><td>Award 1 mark for two correct.</td></tr>
<tr><td>7</td><td>Indicates true with fully correct working e.g. $105 \div 15 = 7$
Both rectangles are 15 cm by 7 cm so they are congruent</td><td>2</td><td>Award 1 mark for attempt to find unknown length in either rectangle.</td></tr>
</table>

Year 9 Autumn Core Mark Scheme A

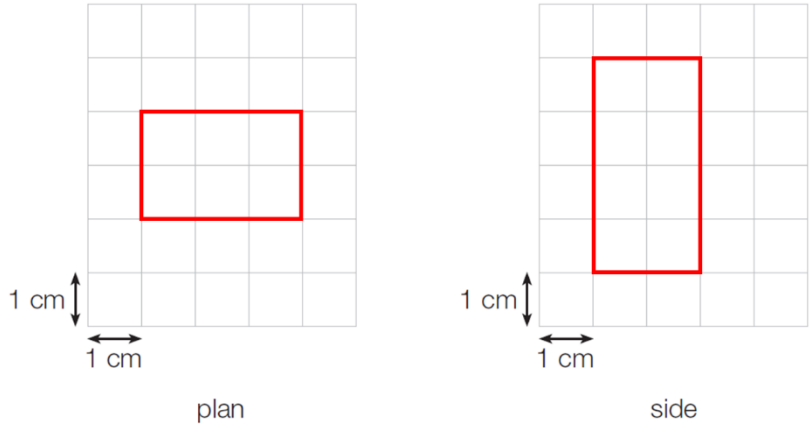
8	$a = \frac{c+b}{2}$	2	Accept any equivalent form e.g. $a = \frac{c}{2} + \frac{b}{2}$ Award 1 mark for correct first step e.g. $2a = b + c$ or $a - \frac{b}{2} = \frac{c}{2}$
9	(0, 1)	1	
	3	1	Do not accept e.g. $\frac{6}{2}$
10	Fully correct net with correct dimensions e.g.  	3	Award 2 marks for • correct shape and at least all rectangles correct or • correct shape and triangles correct. Award 1 mark for • correct shape or • at least one correct face.

Year 9 Autumn Core Mark Scheme A

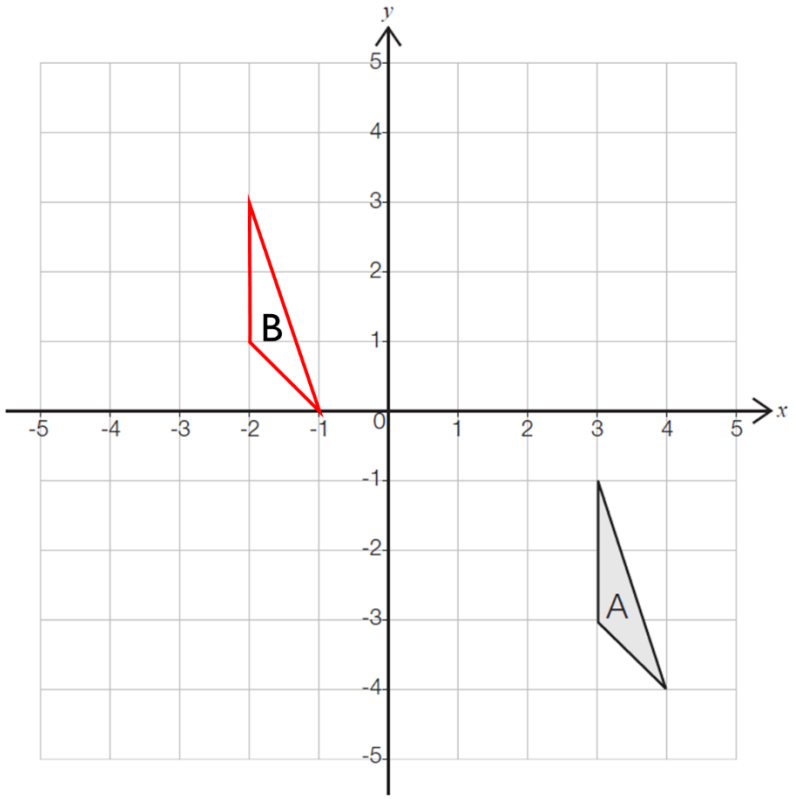
11	Draws any correct net for a cylinder e.g. 	1	
	33 929 or 10 800π	3	Allow rounding to 3sf or better. Award 2 marks for fully correct method. Award 1 mark for at least one correct area e.g. $\pi \times 40^2$ or $\pi \times 80 \times 95$ seen or implied.
12	120	4	Award 1 mark for correct process to find volume e.g. $144 \times 25 \times 250$ Award 1 mark for converting either volume of pool to litres or volume of bucket to litres Award 1 mark for (their volume of the pool) divided by (their volume of 1 bucket).

13	e.g. the locus of the points from the endpoints should be semicircles	1	Any reasonable explanation.
		2	Award two marks for correct locus 2 cm away from AB. Award 1 mark for correct shape.

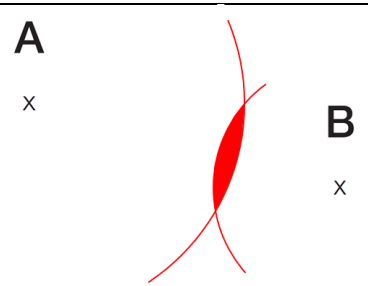
Year 9 Spring Core Paper Mark Scheme

Question	Answer	Marks	Notes and guidance
1	Indicates $\sqrt{144}$	1	Accept any clear indication – circle, underline, tick etc.
2	$p = 225$	1	
	$q = 4.2$	2	Award 1 mark for correct first step to solve e.g. $63 = 15q$, $2.8 = q - 1.4$
3	115°	1	
	Alternate angles are equal	1	
4		2	Award 1 mark for each correct drawing If neither correct, award 1 mark for two correct drawings from plan, side elevation and front elevation seen in the wrong grids
5	8	2	Award 1 mark for correct method e.g. attempting to list factors or draw factor tree for both numbers
	192	2	Award 1 mark for listing multiples of both 24 and 64 or attempt to use prime factors

Year 9 Spring Core Paper Mark Scheme

6	82.9%	2	Award 1 mark for 29 ÷ 35 or 0.8285… seen
7		2	Award 1 mark for any translation of the triangle to the left and up
	Translation by $\begin{pmatrix} 5 \\ -4 \end{pmatrix}$	2	Award 1 mark for "translation" stated with incorrect vector, or correct column vector only

Year 9 Spring Core Paper Mark Scheme

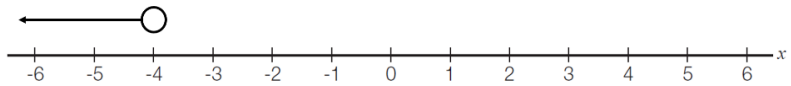
8	$a^2 + 2a - 35$	2	Award 1 mark for expansion with 3 out of 4 terms $a^2, -5a, 7a, -35$ correct
9	32.6	3	Award 1 mark for forming equation $8m + 5 + 2m - 3 = 180$ Award 2nd mark for $m = 17.8$ seen or implied
10		3	Award 1 mark for arc with radius 5 cm $\pm$ 2 mm from A Award 1 mark for arc with radius 3 cm $\pm$ 2 mm from B Award 1 mark their overlap region shaded
11	e.g. "Carpet Co. because £82.64 is less than £87.91"	3	Award 1 mark for either £82.64 or £87.91seen Award 2nd mark for both £82.64 or £87.91seen Award 3rd mark for correct conclusion and justification No marks for just Carpet Co.
12	504π mm^3 or 1583.36… mm^3	3	Award 1 mark for $\pi \times 6^2 \times 14$ Award 2nd mark for 504π or 1583.26… seen or implied e.g. by 1580 Award 1 mark for mm^3
13	$a = 2.525$	2	Award 1 mark for correctly substituting $x = 2.8$ into equation of the line Condone rounding if evidence of substitution seen

14	£900	3	Award 1 mark for 65% = £585 seen or implied (e.g. a bar model) Award 2nd mark for correct method to find 100%
15	306 m	3	Award 1 mark for correct use of Pythagoras' theorem e.g. $145^2 - 17^2$ seen Award 2nd mark for AB = 144

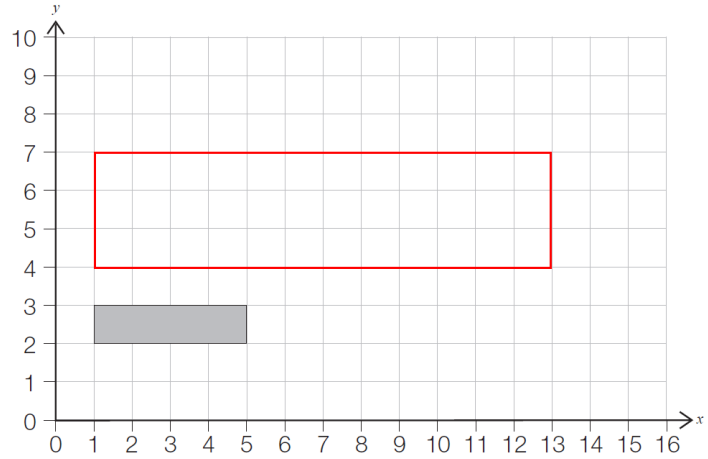
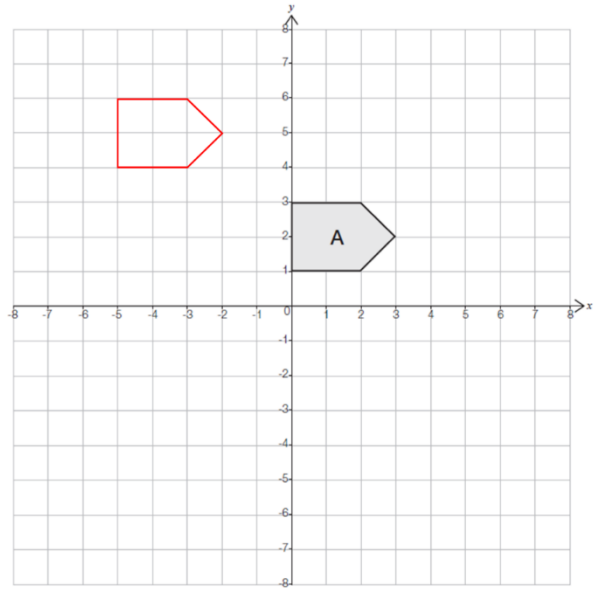
Year 9 Summer Core Paper Mark Scheme

Question	Answer	Marks	Notes and guidance
1	D	1	
2	31 or 37	1	Condone both answers given
	304	1	
3	8.3×10^8	1	
	0.000057	1	
4	120	1	
5	Draws a circle of radius 4 cm and shades the inside of the circle.	1	Allow circle of radius 3.9 cm to 4.1 cm Accept circle shaded or unshaded, but do not accept outside the circle shaded
	16π or 50.3	2	Award 1 mark for $\pi \times 4^2$ seen or implied. Accept awrt 50.3
6	5	1	
	(0, −4)	1	Must be expressed as a coordinate, do not accept just −4

Year 9 Summer Core Paper Mark Scheme

7	$n \geq -1$	1	
		3	Award 1 mark for correct first step to solve inequality e.g. $2x < -8$ or $x + 4.5 < 0.5$ seen Award 1 mark for correct solution seen $x < -4$ Award 1 mark for clear circle and correct arrow orientation plotted above their solution. Follow through their solution (provided still $<$) for the 3rd mark
8	0.3445	2	Accept any equivalent fraction, decimal or percentage condoning rounding Award 1 mark for $0.53 \times \frac{13}{20}$ seen or implied or $0.47 \times \frac{13}{20} = 0.3055$ or equivalent
9	e.g. $35^2 + 12^2 = 1369$ $37^2 = 1369$ $35^2 + 12^2 = 37^2$ so the triangle is right-angled	2	Award 1 mark for correct use of Pythagoras' theorem seen. Award full marks for fully correct working.

Year 9 Summer Core Paper Mark Scheme

10		2	Award 1 mark for correct enlargement incorrectly positioned or two vertices of their enlarged rectangle correctly plotted
11		2	Award 1 mark for a correct horizontal or vertical translation performed **or** four out of five vertices correctly positioned.

Year 9 Summer Core Paper Mark Scheme

12	Chooses Bargain Hut with working e.g. Bargain Hut: $20 \times 3.99 = 79.80$ Mega Saver: $30 \times 3.99 \times 0.8 = 95.76$ so Bargain Hut is cheaper	3	Award 1 mark for correct total price from either shop Award 2nd mark for correct total price from both shops Award full marks for fully correct working with conclusion.
13	855.32	2	Award 1 mark for attempt to $800 \times (1.034)^2$ seen or implied or complete attempt to increase 800 by 3.4% once Answer must be rounded to the nearest penny but condone rounding errors
14	831	3	Award 1 mark for correctly finding the area of at least one triangle (36 mm^2) Award 1 mark for finding the area of at least two rectangular faces (345, 161 and 253 mm^2)
15	Finds $\angle WPY = 49°$	3	Award 1 mark for forming a correct equation e.g. $x + x + 82 = 180$ Award 2nd mark for finding $\angle ZPX = 49°$
16	625 g	3	Award 1 mark for 120 % = 750 g seen or implied Award 1 mark for correct method to find normal size e.g. $750 \div 1.2$
17	3.98	3	Award 1 mark for correctly finding the volume of the cuboid i.e. $80 \div 0.67 = 119.4029$ ... Award ft 1 mark for correct method to find the height of the cuboid i.e. "119.4029" $\div (3 \times 10)$ Award final mark for awrt 3.98