Geometry Non Calculator

Revision Pack

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35 minutes

35 marks

To use alongside mymaths.co.uk and livemaths.co.uk to revise for your GCSE exam

Q1.

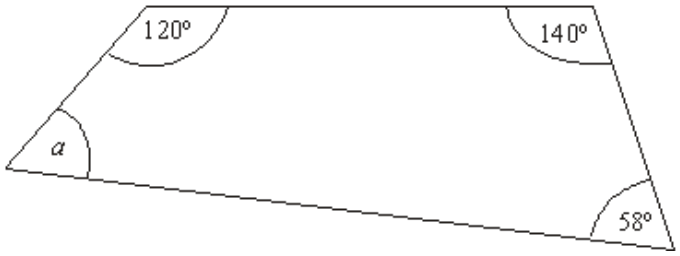


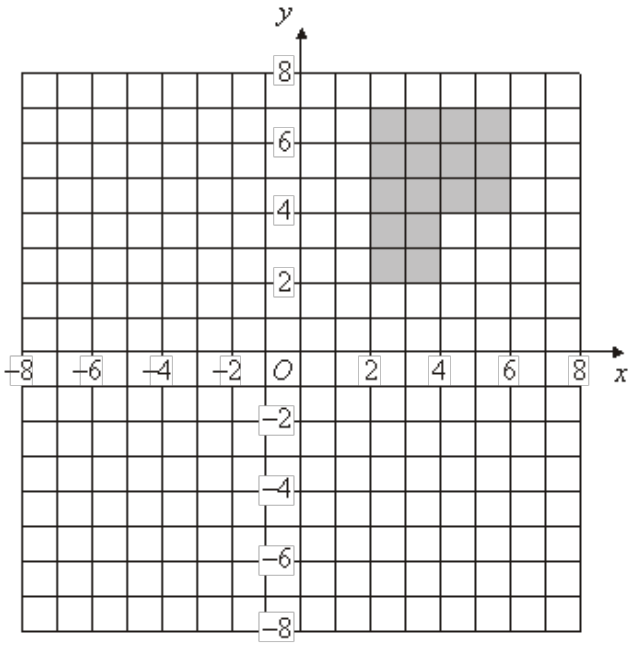
Diagram **NOT** accurately drawn

Work out the size of the angle *a*.

.....°

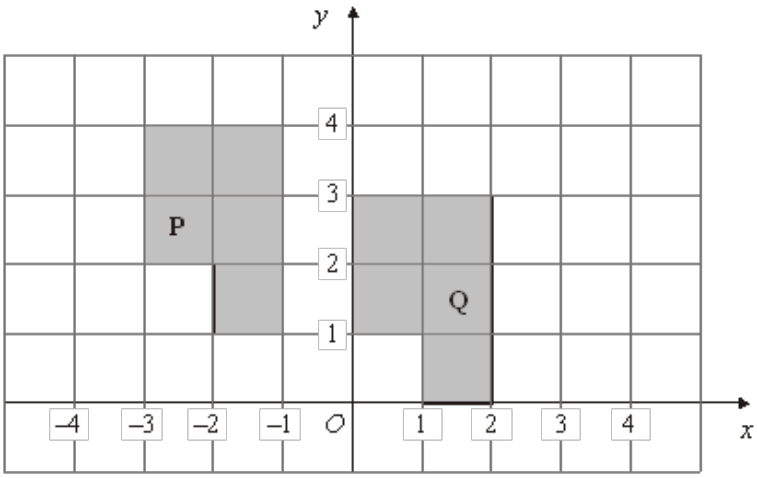
(Total 2 marks)

Q2.



(a) Rotate the shaded shape 90° clockwise about the point *O*.

(2)



(b) Describe fully the single transformation that will map shape **P** onto shape **Q**.

.....

(2)
(Total 4 marks)

Q3.

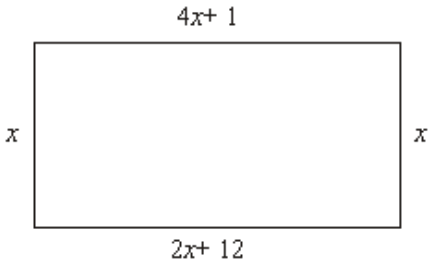


Diagram **NOT** accurately drawn

The diagram shows a rectangle.
All the measurements are in centimetres.

(a) Explain why $4x + 1 = 2x + 12$

.....

(1)

(b) Solve $4x + 1 = 2x + 12$

x = ...

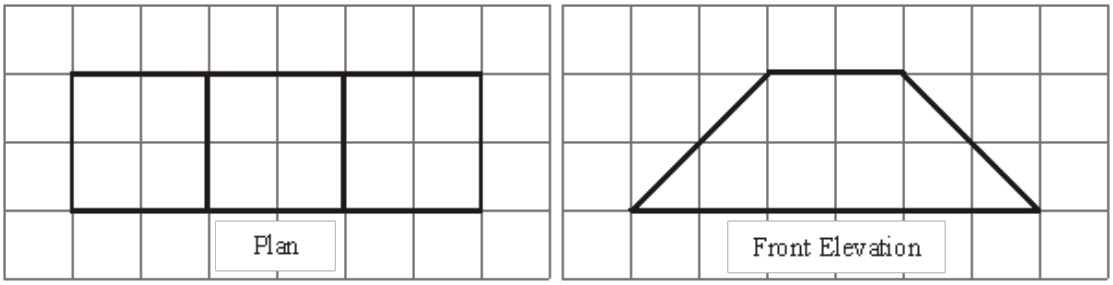
(2)

(c) Use your answer to part (b) to work out the perimeter of the rectangle.

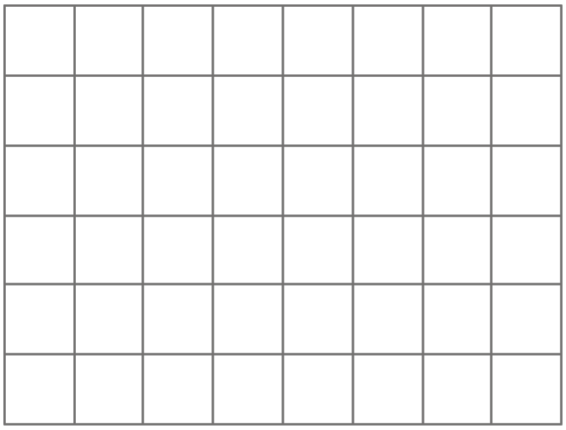
..... cm

(2)
(Total 5 marks)

Q4. Here are the plan and front elevation of a solid shape.



(a) On the grid below, draw the side elevation of the solid shape.

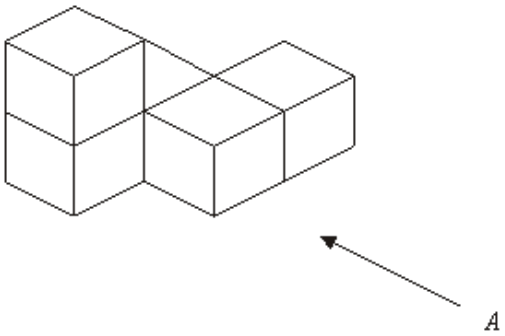


(2)

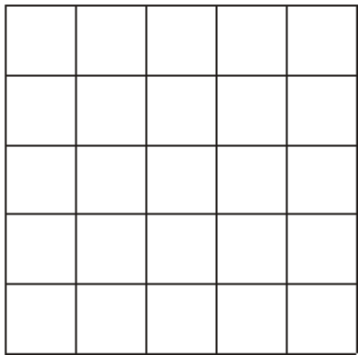
(b) In the space below, draw a sketch of the solid shape.

(2)
(Total 4 marks)

Q5. The diagram represents a solid made from 5 identical cubes.

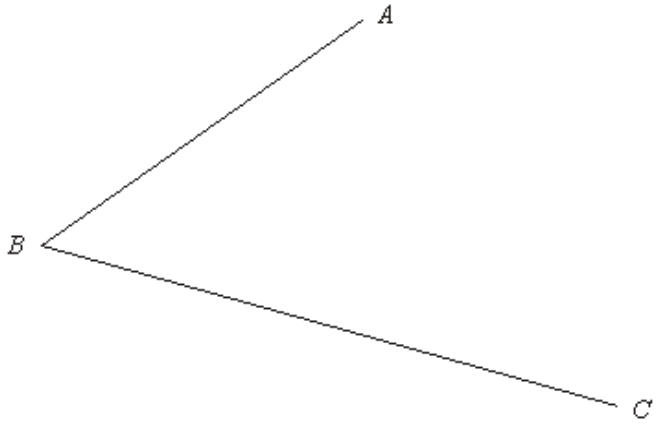


On the grid below, draw the view of the solid from direction A.



(Total 2 marks)

Q6. Use ruler and compasses to construct the bisector of angle ABC.
You must show all your construction lines.



(Total 2 marks)

Q7.

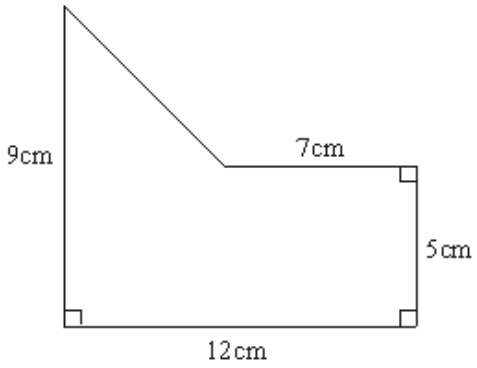


Diagram **NOT** accurately drawn

Work out the area of the shape.

..... cm^2

(Total 4 marks)

Q8.

Diagram **NOT** accurately drawn

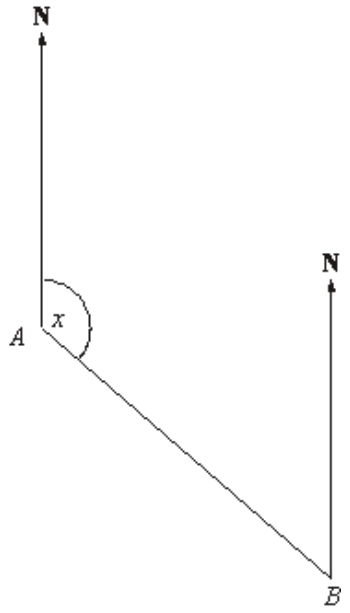
The diagram shows part of a **regular** 10-sided polygon.

Work out the size of the angle marked *x*.

.....°

(Total 3 marks)

Q9. The diagram shows the position of two airports, A and B.
A plane flies from airport A to airport B.



Scale: 1 cm represents 50 km

(a) Measure the size of the angle marked x.

..... °

(1)

(b) Work out the real distance between airport A and airport B.
Use the scale 1 cm represents 50 km.

..... km

(2)

Airport C is 350 km on a bearing of 060° from airport B.

(c) On the diagram, mark airport C with a cross (×).
Label it C.

(2)
(Total 5 marks)

Q10.

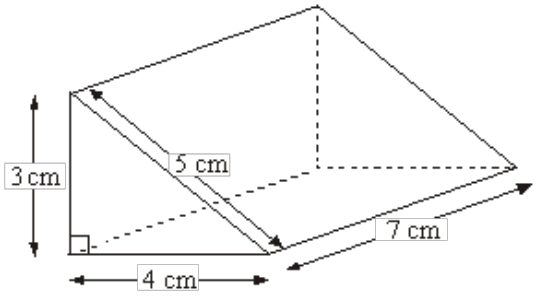


Diagram **NOT** accurately drawn

Work out the total surface area of the triangular prism.
Give the units with your answer.

.....

(Total 4 marks)

M1.

Working	Answer	Mark	Additional Guidance
360 – (120 + 140 + 58)	42	2	**M1** 360 – "(120 + 140 + 58)" or equivalent or for (a + 58 + 120 + 140 = 360) oe seen **A1** cao [Note: The subtraction MUST be from 360]
			Total for Question: 2 marks

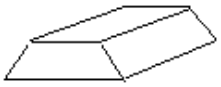
M2.

	Answer	Mark	Additional Guidance
(a)	Vertices at (2, –2), (7, –2), (7, –6), (4, –6), (4, –4), (2, –4)	2	**B2** for a fully correct rotation [**B1** for correct shape with correct orientation **OR** a 90° anticlockwise rotation about *O* **OR** a 180° rotation about *O* **OR** for any 3 correct sides in the correct position]
(b)	Translation by $\begin{pmatrix} 3 \\ -1 \end{pmatrix}$	2	**B1** for translation **B1** (indep) for $\begin{pmatrix} 3 \\ -1 \end{pmatrix}$ or 3 right and 1 down
			Total for Question: 4 marks

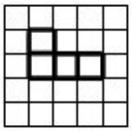
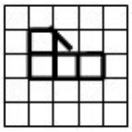
M3.

	Working	Answer	Mark	Additional Guidance
(a)		opp sides are equal	1	**B1** for a correct explanation
(b)	$4x - 2x = 12 - 1$	5.5	2	**M1** for $4x + 1 - 1 - 2x = 2x + 12 - 1 - 2x$ oe **A1** for 5.5 or 11/2 or 5½
(c)	'5.5' × 2 + 4 × '5.5' + 1 + 2'5.5' + 12	57	2	**M1** for correct substitution of x = '5.5' into the four expressions to find the sum of FOUR sides or $8x + 13$ seen **A1** ft
				Total for Question: 5 marks

M4.

	Answer	Mark	Additional Guidance
(a)		2	**M1** rectangle with either correct width or height_ or any square **A1** cao
(b)		2	**B2** for a correct sketch (**B1** any 3-D sketch of no more than 4 faces seen, with a trapezoidal face)
			Total for Question: 4 marks

M5.

Answer	Mark	Additional Guidance
 **OR** 	2	**B2** For either answer (**B1** for an "L" shape with one dimension correct) Internal lines need not be drawn. All 3-D drawings get B0
		Total for Question: 2 marks

M6.

Answer	Mark	Additional Guidance
	2	**M1** for correct intersecting arcs **A1** for correct angle bisector SC: if no marks, **B1** for line within guidelines
		Total for Question: 2 marks

M7.

Working	Answer	Mark	Additional Guidance
Splits up shape e.g. into rectangle and triangle 12 × 5 (=60) $\frac{1}{2}$ × 5 × 4	70	4	**M1** for splitting up shape by drawing straight lines or for two or more attempts to find the area of parts of the shape **M1** (dep) for a correct method to find area of one part, e.g. 12 × 5 or 60 **M1** for a correct method to find area of another part(s), e.g. $\frac{1}{2}$ × "5" × "4" or 10 **A1** cao
			Total for Question: 4 marks

M8.

Working	Answer	Mark	Additional Guidance
360 ÷ 10 = 36 180 – 36 180 × (10 − 2) ÷ 10	144	3	**M1** for 360 ÷ 10 or 36 seen **M1** (dep) for 180 – "36" **A1** cao **OR** **M1** for 180 × (10 − 2) oe or 1440 seen **M1** (dep) for "1440" ÷ 10 **A1** cao
			Total for Question: 3 marks

M9.

	Working	Answer	Mark	Additional Guidance
(a)		129 – 133	1	**B1** for 129 – 133
(b)	6 × 50	290 – 310	2	**B2** for 290 – 310 (**B1** for 6 ± 0.2 (cm) seen or for d × 50 with $3 \leq d \leq 9$)
(c)		Point C marked	2	**B1** for *BC* = 7 ± 0.2 cm **B1** for bearing = 60 ± 2°
				Total for Question: 5 marks

M10.

Working	Answer	Mark	Additional Guidance
$\frac{1}{2}$ (3 × 4) × 2 + (3 × 7) + (4 × 7) + (5 × 7) = 12 + 21 + 28 + 35	96 cm^2	4	**M1** for $\frac{1}{2}$ (3 × 4) or 3 × 7or 5 × 7or 4 × 7 **M1** for attempt to add 5 faces which are areas **A1** for 96 **B1** (indep) for cm^2 (NB: 0 marks for calculating volume)
			Total for Question: 4 marks