Write your name, centre number and candidate number in the boxes below.

Surname	Other names

Centre number | | | | | |

Candidate number | | | | |

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Constructions and nets

Time allowed: 30 minutes

Subject code **0580**

Mathematics

Questions from Paper 1, Paper 2, Paper 3 and Paper 4

You must have: a ruler marked in centimetres and millimetres, a protractor, compasses, a pen, an HB pencil and an eraser.
You may use a calculator.

Total marks

/ 24

Instructions

- Answer every question in the space provided on this paper.
- Write in black or dark blue ink. Pencil may be used for diagrams and graphs.
- Fill in your name, centre number and candidate number above.
- Show your working: a correct method can earn marks even if the answer is wrong.
- Unless a question says otherwise, give answers that are not exact to 3 significant figures, and angles in degrees to 1 decimal place.

Information

- This paper has 10 questions worth 24 marks in total.
- The marks for each question or part are shown in brackets, for example [3].

Advice

- Read every question through once before you write anything.
- Use the marks in brackets to judge how long to spend on each part.
- If you finish early, go back and check your working.

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Print at 100% (Actual size) so diagrams keep their real measurements.

1



The diagram shows the net of a solid.

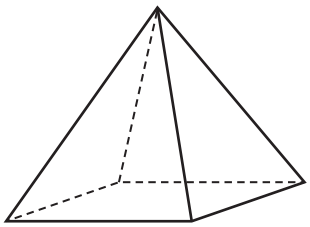
Write down the mathematical name of this solid.

..... [1]

3D shapes Click for more variations

1	triangular prism	**1**	

2



The diagram shows a square-based pyramid.

Complete this statement.

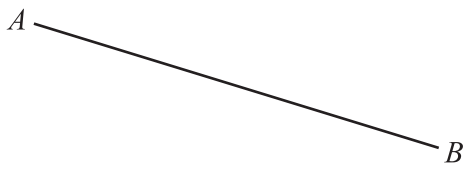
The pyramid has ..... edges and ..... vertices. [2]

3D shapes Click for more variations

2	8 5	**2**	**B1** for each in correct position

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3



(a) Measure the length of line AB in centimetres.

..... cm [1]

(b) Draw a line that is parallel to line AB. [1]

(a) Constructions and loci (b) Constructions and loci Click for more variations

3(a)	5.6	**1**	
3(b)	Ruled line parallel to AB	**1**	

4 Construct a triangle with sides of length 55 mm, 68 mm and 85 mm.

The 85 mm side has been drawn for you.

[2]

Constructions and loci Click for more variations

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4	correct triangle with correct arcs	**2**	**B1** for correct triangle without arcs or 1 correct side with arcs

5 The line AB is one side of an equilateral triangle ABC.

Using a straight edge and compasses only, construct triangle ABC.



[2]

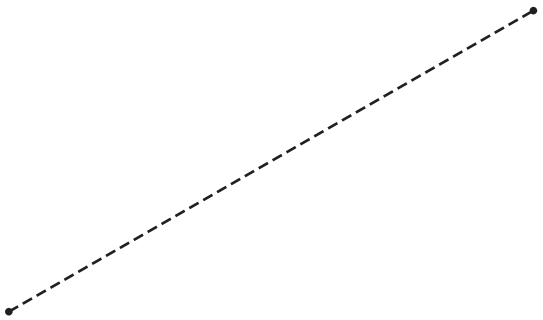
Constructions and loci Click for more variations

5	Equilateral triangle with correct arcs	**2**	**M1** for clear evidence of constructed 60° angles or arcs crossing equal in length to AB or an accurate diagram with no/incorrect arcs

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6 A rhombus has side length 6.5 cm.
The rhombus can be constructed by drawing two triangles.

Using a ruler and compasses only, construct the rhombus.
Leave in your construction arcs.
One diagonal of the rhombus has been drawn for you.



[2]

Constructions and loci Click for more variations

6	Accurate construction of rhombus with sides 6.5 cm and correct construction arcs.	**2**	**B1** for accurate diagram with no/wrong arcs or for one triangle (6.5 cm, 6.5 cm, 8 cm) correctly constructed with correct arcs or for four correct arcs

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7 AB is a straight line.



(a) Measure the length of AB.

..... cm [1]

(b) Mark the midpoint of AB. [1]

(c) Draw a line perpendicular to AB. [1]

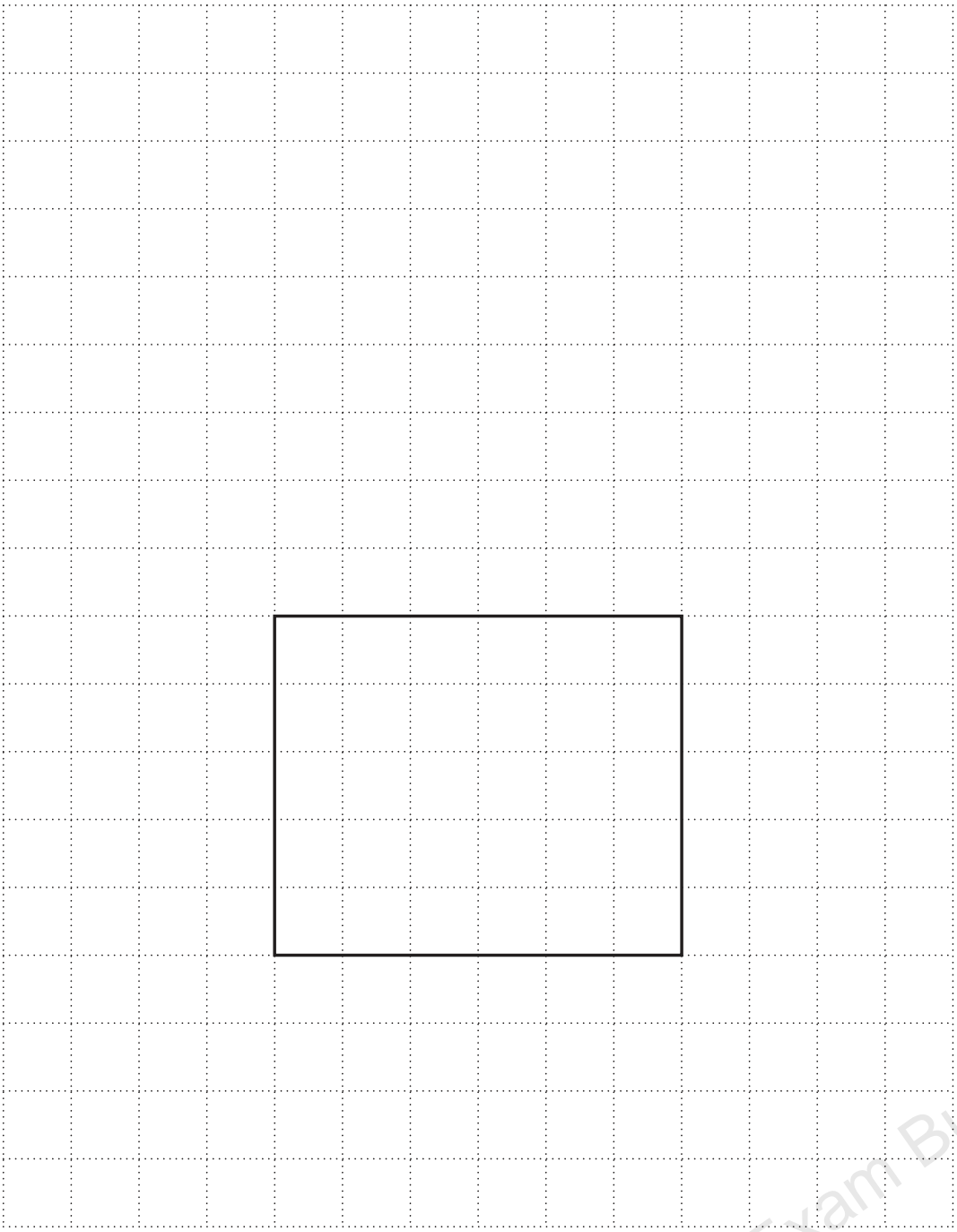
(a) Constructions and loci (b) Constructions and loci (c) Constructions and loci Click for more variations

7(a)	9	**1**	
7(b)	Midpoint marked	**1**	
7(c)	Perpendicular line drawn	**1**	

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8 A cuboid has length 6 cm, width 5 cm and height 3 cm.

On the 1 cm^2 grid, complete the net of the cuboid.
The base is drawn for you.



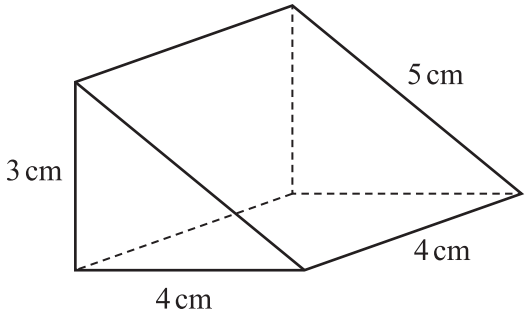
[3]

3D shapes Click for more variations

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8	Complete correct **ruled** net	**3**	**B2** for 4 correct rectangles in correct places or **B1** for 2 correct side rectangles in correct places

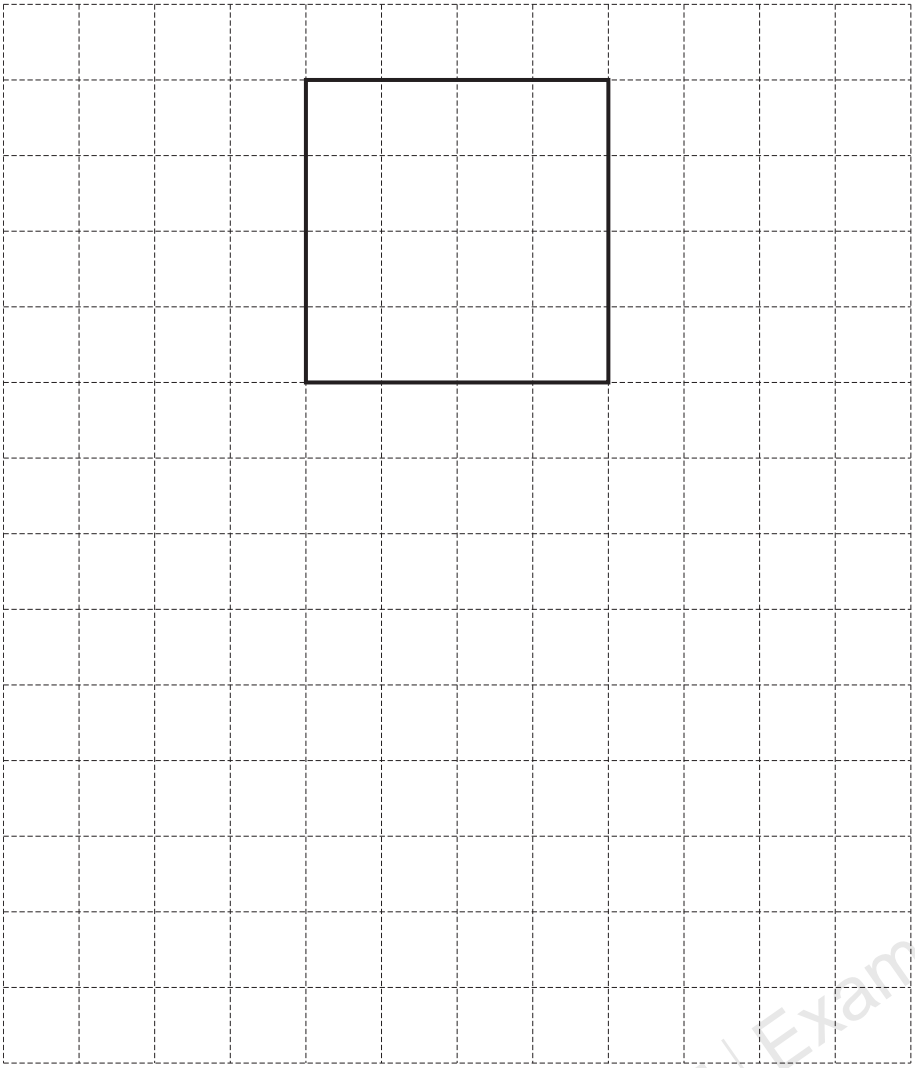
9



NOT TO SCALE

The diagram shows a right-angled triangular prism.

Complete the net of this prism on the 1 cm^2 grid.
One face has been drawn for you.



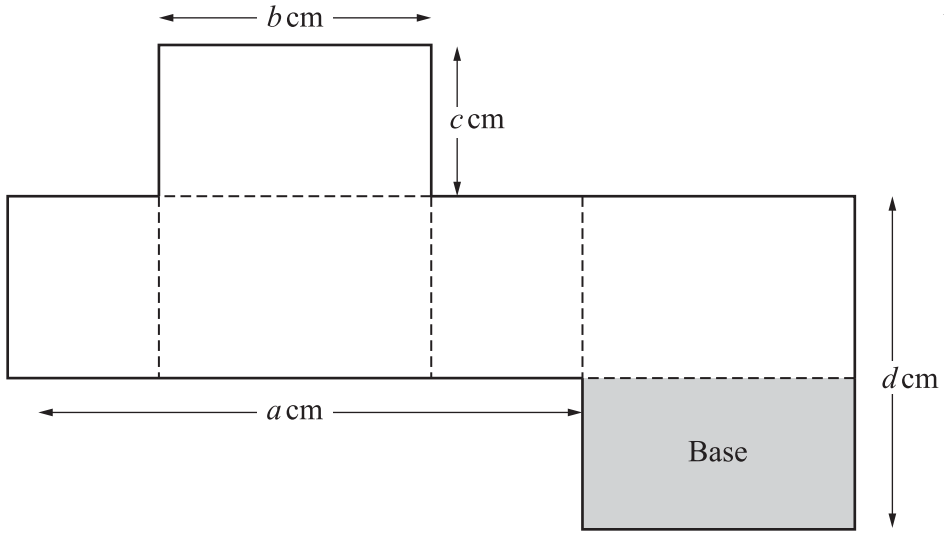
[3]

3D shapes Click for more variations

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9	Fully correct net	**3**	**B2** for the two correct rectangles, in either order below the given face **and** two 3,4,5 triangles, one on each side or **B1** for 1 correct rectangle in either place below the given face or for two 3, 4, 5 triangles, one each side

10



NOT TO SCALE

The diagram shows the net of a cuboid with its base shaded.
The length of the cuboid is 10 cm, its width is 4 cm and its height is 5 cm.

Write down the values of each of a, b, c and d.

a = ..., b = ..., c = ..., d = ... [4]

3D shapes Click for more variations

10	$a = 18$ $b = 10$ $c = 4$ $d = 9$	**4**	**B1** for each If 0 scored, **SC1** for b or c = 4, 5 or 10

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