8.3 Geometry and Measures Depth: 30-minute Pack

NCETM National Curriculum (2014) Mathematics - KS2 Geometry and Measures (Depth) · Calculators not allowed · about 30 minutes

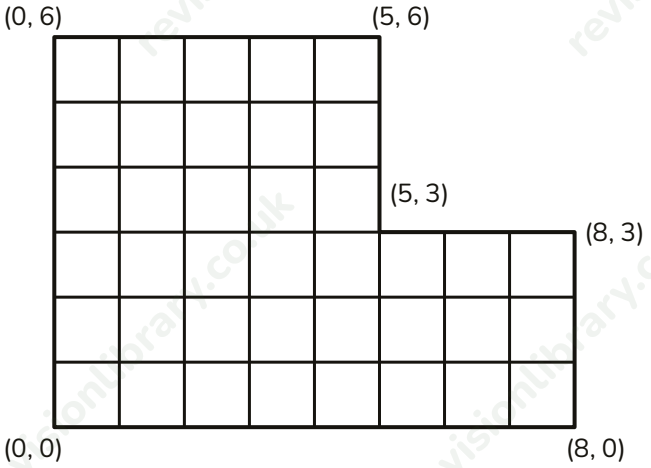
Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 The diagram shows the outline of a school playground shaped like the letter L, drawn on a grid where each square represents 1 metre. Its vertices, taken in order, are at (0, 0), (8, 0), (8, 3), (5, 3), (5, 6) and (0, 6).

Diagram NOT accurately drawn



(a) Calculate the perimeter of the playground. **(3)**

(b) Calculate the area of the playground. **(3)**

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2 A rectangular room is 6.5 m long and 4 m wide. Aaliyah wants to cover the whole floor with square tiles that have sides of 50 cm, with no gaps and no overlaps.

(3)

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3 Answer the questions about translations on a coordinate grid.

(a) Point P has coordinates (3, 4). P is translated 5 squares right and 2 squares down. Write down the coordinates of the image of P. **(2)**

(b) Point Q is translated from (7, 1) to (2, 6). Describe this translation, giving the number of squares moved left or right and up or down. **(2)**

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4 A right angle is split into two angles. One of them is 52 degrees.

What is the other?

Answer: ___ degrees

(1)

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5 Convert 4.91 litres to ml.

Answer: ___ ml

(1)

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6 What is the name of a polygon with 3 sides?

Answer: ___

(1)

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7 Point A is at (2, 0). It is translated by the vector (1, 2), where the first number is the move to the right and the second is the move up.

What are the coordinates of the image of A?

Answer: (___, ___)

(1)

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8 How many faces are in a net of a hexagonal prism?

Answer: ___

(1)

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9 I am a quadrilateral. I have 1 line of symmetry, 0 right angles and 0 pairs of parallel sides.

What shape am I?

Answer: ___

(2)

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10 Answer the questions about the 3D shapes below.

(a) A 3D shape has 6 faces, 12 edges and 8 vertices. Every face is a square. Write down the name of this shape. **(1)**

.....

(b) A 3D shape has 5 faces, 8 edges and 5 vertices. It has a square base and four triangular faces that meet at a single point. Write down the name of this shape. **(1)**

.....

(c) A triangular prism has a triangular cross-section. Write down the number of faces it has. **(1)**

.....

(d) Write down the number of edges a triangular prism has. **(1)**

.....

(e) Write down the number of vertices a triangular prism has. **(1)**

.....

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Mark scheme · 8.3 Geometry and Measures Depth: 30-minute Pack

A correct answer earns full marks unless the question asks for working, a method, proof or explanation.

Question 1

(a) all six side lengths correctly identified using the coordinates: 8, 3, 3, 3, 5 and 6	**M1**
(a) 8 + 3 + 3 + 3 + 5 + 6 set up, dependent on the previous method mark	**M1**
(a) 28 m cao	**A1**
(a) Answer: **28 m**	
(b) area of the full bounding rectangle found, 8 x 6 = 48	**M1**
(b) area of the missing corner square found, 3 x 3 = 9, dependent on the previous method mark	**M1**
(b) 39 m^2 cao	**A1**
(b) Answer: **39 m^2**	

Question 2

tiles along the length found, 6.5 / 0.5 = 13	**M1**
tiles along the width found, 4 / 0.5 = 8, dependent on the previous method mark	**M1**
104 cao	**A1**
Answer: **104 tiles**	

Question 3

(a) 3 + 5 and 4 - 2 seen or implied	**M1**
(a) (8, 2) cao	**A1**
(a) Answer: **(8, 2)**	
(b) 7 - 2 = 5 and 6 - 1 = 5 seen or implied	**M1**
(b) 5 left and 5 up oe cao	**A1**
(b) Answer: **5 left and 5 up**	

Question 4

38 degrees cao	**B1**
Answer: **38 degrees**	

Question 5

4,910 ml cao	**B1**
Answer: **4,910 ml**	

Question 6

triangle cao	**B1**
Answer: **triangle**	

Question 7

(3, 2) cao	**B1**
Answer: **(3, 2)**	

Question 8

8 cao	**B1**
Answer: **8**	

Question 9

eliminates at least one shape	**M1**
kite cao	**A1**
Answer: **kite**	

Question 10

(a) cube cao	**B1**
(a) Answer: **Cube**	
(b) square-based pyramid cao	**B1**
(b) Answer: **Square-based pyramid**	
(c) 5 cao	**B1**
(c) Answer: **5**	
(d) 9 cao	**B1**
(d) Answer: **9**	
(e) 6 cao	**B1**
(e) Answer: **6**	

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