8.3 Geometry and Measures Depth: Test Pack

NCETM National Curriculum (2014) Mathematics - KS2 Geometry and Measures (Depth) · Calculators not allowed · about 55 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Write down the name of the shape described in each part.

(a) A quadrilateral with all four sides equal in length and all four angles equal to 90 degrees. **(1)**

.....

(b) A quadrilateral with two pairs of parallel sides, opposite sides equal in length, but no right angles. **(1)**

.....

(c) A triangle with all three sides of different lengths and all three angles of different sizes. **(1)**

.....

(d) A polygon with five straight sides and five vertices. **(1)**

.....

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2 For each angle below, write down whether it is acute, right angle, obtuse or reflex.

(a) 40 degrees **(1)**

(b) 90 degrees **(1)**

(c) 155 degrees **(1)**

(d) 275 degrees **(1)**

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3 Name the 3D shape that each net below would fold into.

(a) A net made from six identical squares. **(1)**

(b) A net made from one rectangle and two identical triangles, one attached to each short end of the rectangle. **(1)**

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4 Ffion needs to fence a garden shaped like the letter L. Taking the vertices in order, and measuring in metres, they are at (0, 0), (9, 0), (9, 4), (6, 4), (6, 7) and (0, 7). Fencing costs £8.50 per metre.

(4)

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5 A tank is 10 cm long, 10 cm wide and 10 cm high.

How many litres of water does it hold when full? (1 litre = 1,000 cm cubed.)

Answer: ___ litres

(2)

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6 A pond is drawn on a centimetre-squared grid. It covers 23 whole squares and 14 part-squares. Each part-square counts as approximately half a whole square. Estimate the area of the pond.

(2)

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7 Answer the questions about mass and capacity.

(a) Convert 2.3 kg to g. **(1)**

(b) Convert 650 ml to litres. **(1)**

(c) A recipe needs 1.2 kg of flour in total. Kwame has already used 800 g of flour. How many more grams of flour does he need? **(2)**

.....

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8 Convert 37 km to m.

Answer: ___ m

(1)

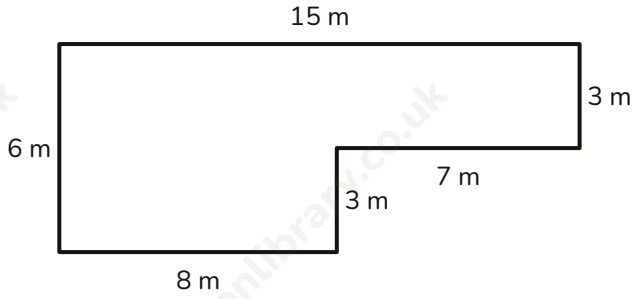
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9 An L-shaped floor has these sides in order around the shape: 15 m, 3 m, 7 m, 3 m, 8 m, 6 m.

What is the perimeter of the floor?

Answer: ___ m

Diagram NOT accurately drawn



(2)

---

10 A shape has vertices A(1, 0), B(1, 3), C(5, 4), D(1, 6). It is translated 1 unit right and 4 units up.

Write the coordinates of the translated vertices in the same order.

Answer: ___

(2)

---

11 A shape has vertices A(4, 1), B(3, 6), C(4, 4), D(5, 0). It is translated 1 unit right and 3 units up.

Write the coordinates of the translated vertices in the same order.

Answer: ___

(2)

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12 A rectangle ABCD has vertices A(2, 3), B(2, 7) and C(9, 7). Find the coordinates of D.

(2)

---

13 A circle has a diameter of 4 cm. What is its radius?

Answer: ___ cm

(1)

---

14 Use angle facts to find the missing angles below.

(a) Two angles lie on a straight line. One of the angles is 118 degrees. Work out the size of the other angle, marked x degrees. **(2)**

(b) Three angles meet at a point. Two of the angles are 95 degrees and 140 degrees. Work out the size of the third angle, marked y degrees. **(2)**

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15 I am a quadrilateral. I have 0 right angles and 0 pairs of parallel sides.

What shape am I?

Answer: ___

(1)

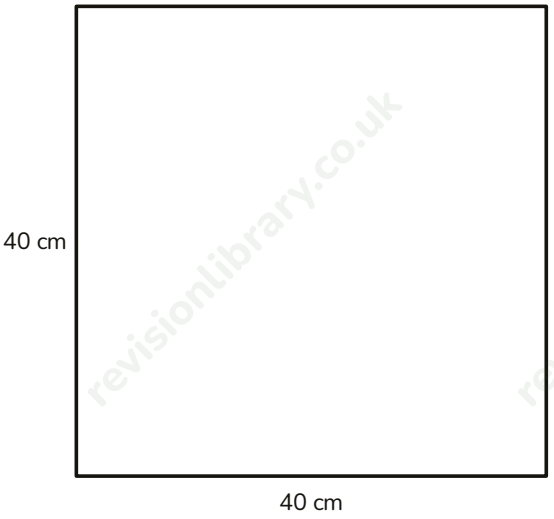
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16 A square has sides of length 40 cm.

What is its perimeter?

Answer: ___ cm

Diagram NOT accurately drawn



(1)

17 Four angles meet at a point and add up to 360 degrees. Three of the angles are 94, 103 and 87 degrees.

What is the fourth angle?

Answer: ___ degrees

(2)

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18 How many lines of symmetry does a square have?

Answer: ___

(1)

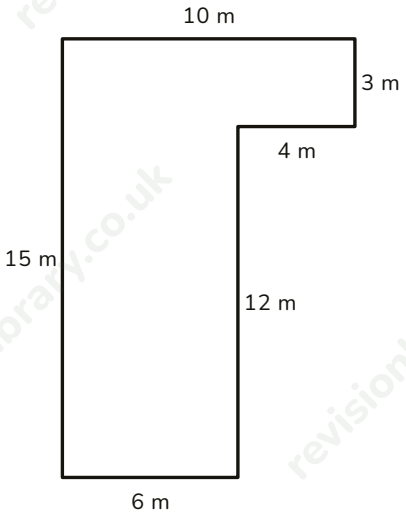
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19 An L-shaped floor has these sides in order around the shape: 10 m, 3 m, 4 m, 12 m, 6 m, 15 m.

What is the perimeter of the floor?

Answer: ___ m

Diagram NOT accurately drawn



(2)

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Mark scheme · 8.3 Geometry and Measures Depth: Test Pack

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

Question 1

(a) square cao	B1
(a) Answer: **Square**	
(b) parallelogram cao	B1
(b) Answer: **Parallelogram**	
(c) scalene triangle cao	B1
(c) Answer: **Scalene triangle**	
(d) pentagon cao	B1
(d) Answer: **Pentagon**	

Question 2

(a) acute cao	B1
(a) Answer: **Acute**	
(b) right angle cao	B1
(b) Answer: **Right angle**	
(c) obtuse cao	B1
(c) Answer: **Obtuse**	
(d) reflex cao	B1
(d) Answer: **Reflex**	

Question 3

(a) cube cao	B1
(a) Answer: **Cube**	
(b) triangular prism cao	B1
(b) Answer: **Triangular prism**	

Question 4

all six side lengths correctly identified using the coordinates: 9, 4, 3, 3, 6 and 7	M1
perimeter = 32 m cao	A1
32 x 8.50 set up, dependent on the perimeter mark	dM1
£272 cao	A1
Answer: **£272**	

Question 5

1,000 cm cubed seen	M1
1 litres cao	A1
Answer: **1 litres**	

Question 6

14 / 2 (= 7) seen or implied	M1
30 cm^2 cao	A1
Answer: **30 cm^2**	

Question 7

(a) 2300 g cao	B1
(a) Answer: **2300 g**	
(b) 0.65 l cao	B1
(b) Answer: **0.65 l**	
(c) 1.2 kg converted to 1200 g	M1
(c) 400 g cao	A1
(c) Answer: **400 g**	

Question 8

37,000 m cao	B1
Answer: **37,000 m**	

Question 9

adds all six sides	M1
42 m cao	A1
Answer: **42 m**	

Question 10

two vertices correct	M1
(2, 4), (2, 7), (6, 8), (2, 10) cao	A1
Answer: **(2, 4), (2, 7), (6, 8), (2, 10)**	

Question 11

two vertices correct	M1
(5, 4), (4, 9), (5, 7), (6, 3) cao	A1
Answer: **(5, 4), (4, 9), (5, 7), (6, 3)**	

Question 12

recognises D must share the x-coordinate of C and the y-coordinate of A, or equivalent method	M1
(9, 3) cao	A1
Answer: **D = (9, 3)**	

Question 13

2 cm cao	B1
Answer: **2 cm**	

Question 14

(a) 180 - 118 seen or implied	M1
(a) x = 62 degrees cao	A1
(a) Answer: **x = 62 degrees**	
(b) 360 - 95 - 140 seen or implied	M1
(b) y = 125 degrees cao	A1
(b) Answer: **y = 125 degrees**	

Question 15

kite cao	B1
Answer: **kite**	

Question 16

160 cm cao	B1
Answer: **160 cm**	

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Question 17

284 seen	**M1**
76 degrees cao	**A1**

Answer: **76 degrees**

Question 18

4 cao	**B1**

Answer: **4**

Question 19

adds all six sides	**M1**
50 m cao	**A1**

Answer: **50 m**

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