Steady Steps Maths

FREE UNIT TEST · TOPIC 9

FREE SAMPLE · UNIT TEST A

Area

Unit Test A · 40 marks · about 40 minutes

GRADE 3



Common Core 3.MD.C.5–7

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Name _____ Date _____

UNIT TEST A

Area

40 marks · about 40 minutes · Common Core 3.MD.C.5–7

Name _____ **Date** _____

Instructions

- Answer **every** question in the space given.
- Show your working: in Sections B and C you get marks for your method, even if the final answer is wrong.
- The number in brackets, like [2], shows how many marks a question is worth.
- You have about 40 minutes. A calculator is **not** needed.
- Check your answers if you finish early.

Your score

Section	Questions	Marks	Your score
A · Quick questions	1–10	10	
B · Show your working	11–16	17	
C · Problem solving	17–18	13	
Total		**40**	

Percentage: _____ % 85%+ excellent · 65–84% good · 45–64% keep practising · below 45% revise the packs first

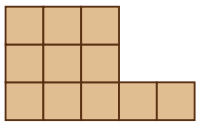
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SECTION A Quick questions

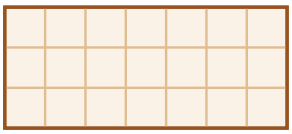
1 mark each · write your answer in the box

1 Each square is 1 square unit. What is the area of the shape? [1]



Answer .....

2 Write a multiplication for the area. Write the unit. [1]



.....

Answer .....

3 What is the area of a rectangle 8 ft long and 5 ft wide? [1]

Answer .....

4 Better unit for the area of a phone screen: square inches or square feet? [1]

Answer .....

5 A square has sides of 7 cm. What is its area? [1]

Answer .....

6 A rectangle has an area of 72 sq cm. One side is 8 cm. Find the other side. [1]

Answer .....

7 Find the missing number: $4 \times 8 = (4 \times 5) + (4 \times \square)$ [1]

Answer .....

8 Bigger area, or the same: 7 cm by 3 cm, or 5 cm by 4 cm? [1]

Answer .....

9 How many 1 sq m slabs cover a patio 5 m by 4 m? [1]

Answer .....

10 A shape is a 5 cm by 4 cm rectangle joined to a 2 cm by 3 cm rectangle. Find its area. [1]

Answer .....

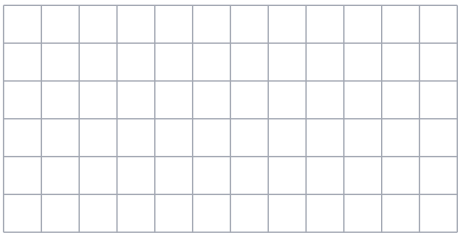
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SECTION B Show your working

Marks are given for your method

11 Shade a rectangle with an area of 14 square units. Write its side lengths. [2]



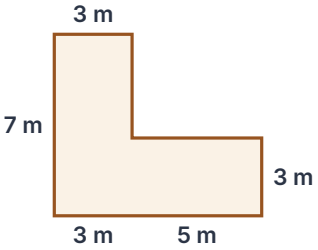
Answer

12 The rectangle is split into two parts. Find the area of each part and of the whole rectangle. [3]



Answer

13 Split the shape into two rectangles. Find its area. [3]

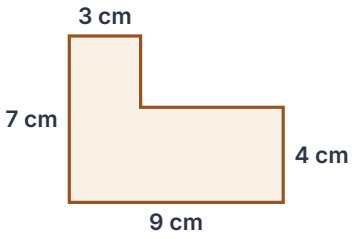


Answer

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14 Two side lengths are missing. Find them, then find the area of the shape. [3]



Answer

15 Karim says the area of a 7 cm by 3 cm rectangle is 10 sq cm. What did Karim do wrong? Find the right area. [2]

Answer

16 Find all the rectangles with whole-number side lengths (in cm) that have an area of 42 sq cm. [4]

Answer

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SECTION C Problem solving

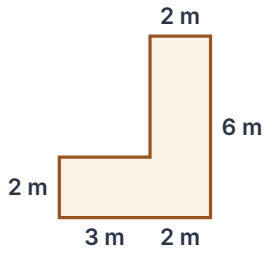
Longer questions with several steps

17 This is the plan of Omar's L-shaped bedroom floor. [7]

(a) Split the floor into two rectangles and find the area of each.

(b) What is the area of the whole floor?

(c) A rug 3 m by 2 m is put on the floor. How much floor is **not** covered by the rug?



Answer

18 Garden A is 6 m by 4 m. Garden B is 7 m by 3 m. [6]

(a) Find the area of each garden. (b) Do the gardens have the same area? If not, which is bigger and by how much?

(c) Give the side lengths of a different rectangle with the same area as Garden A.

Answer

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Mark scheme

For parents · give the marks shown; method marks can be given even if the final answer is wrong

Tip: Give method marks generously when the working shows the right idea. If a mistake early on is carried through correctly, give the later marks.

Q	Answer	Marks	How to award the marks
1	11 square units	1	
2	7 × 3 = 21 sq cm	1	Accept 3 × 7.
3	40 sq ft	1	Unit needed.
4	square inches	1	
5	49 sq cm	1	Unit needed.
6	9 cm	1	
7	3	1	
8	7 cm by 3 cm (21 sq cm)	1	
9	20 slabs	1	
10	20 + 6 = 26 sq cm	1	
11	e.g. 2 by 7	2	1 mark for a correct rectangle; 1 mark for the side lengths.
12	4 × 5 = 20; 4 × 2 = 8; total 28 sq cm	3	1 mark for each part; 1 mark for the total.
13	e.g. 3 × 7 = 21 and 5 × 3 = 15; total 36 sq m	3	1 mark for a correct split; 1 mark for both part areas; 1 mark for the total. Any correct split.
14	missing sides 6 cm and 3 cm; area 36 + 9 = 45 sq cm	3	1 mark for both missing sides; 1 mark for the part areas; 1 mark for the total.
15	Karim added the sides. Area = 7 × 3 = 21 sq cm.	2	1 mark for the mistake; 1 mark for the right area.
16	1 by 42, 2 by 21, 3 by 14, 6 by 7	4	1 mark for each rectangle (either way round counts as the same rectangle).
17	(a) e.g. 2 × 6 = 12 and 3 × 2 = 6 (b) 18 sq m (c) 18 − 6 = 12 sq m	7	(a) 3 marks: 1 for the split, 1 for each area. (b) 2 marks. (c) 2 marks: 1 for the rug's area. Any correct split; follow through.
18	(a) A 24 sq m, B 21 sq m (b) A, by 3 sq m (c) e.g. 2 m by 12 m or 3 m by 8 m	6	(a) 2 marks. (b) 2 marks: 1 for the garden (or "the same"), 1 for the difference. (c) 2 marks: 1 for two sides that multiply to the area, 1 for a rectangle different from A. Follow through.

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What to revise

Circle the questions your child lost marks on, then go back to the matching part of the pack

Questions	Skill	Revise in	✓ / ×
1	Counting unit squares	Pack 1 · Understanding Area, Part 1	
2	Tile and multiply	Pack 2 · Area of Rectangles, Part 1	
3, 5	Multiply the side lengths	Pack 2 · Area of Rectangles, Part 2	
4	Choosing a unit	Pack 1 · Understanding Area, Part 2	
6, 9, 16	Area problems	Pack 2 · Area of Rectangles, Part 4	
7, 12	Breaking a rectangle apart	Pack 2 · Area of Rectangles, Part 3	
8	Comparing areas	Pack 1 · Understanding Area, Part 4	
10	Combined shapes	Pack 3 · Area of Combined Shapes, Parts 1–4	
11	Drawing shapes with an area	Pack 1 · Understanding Area, Part 3	
13	Split and add	Pack 3 · Area of Combined Shapes, Part 2	
14	Missing side lengths	Pack 3 · Area of Combined Shapes, Part 3	
15	Tile and multiply	Pack 2 · Area of Rectangles, Parts 1–2	
17	Combined shapes in a problem	Pack 3 · Area of Combined Shapes, Parts 2 and 4	
18	Comparing areas of rectangles	Pack 2 · Area of Rectangles, Part 4 and Pack 1 · Understanding Area, Part 4	

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