Steady Steps Maths

FREE UNIT TEST · TOPIC 10

FREE SAMPLE · UNIT TEST A

Perimeter

Unit Test A · 40 marks · about 40 minutes

GRADE 3



Common Core 3.MD.D.8

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Name _____ Date _____

UNIT TEST A

Perimeter

40 marks · about 40 minutes · Common Core 3.MD.D.8

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

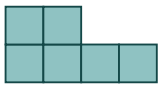
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SECTION A Quick questions

1 mark each · write your answer in the box

1 Each side of a small square is 1 unit. What is the perimeter of the shape? [1]



Answer

2 What is the perimeter of the rectangle? [1]



Answer

3 A square has sides of 5 in. What is its perimeter? [1]

Answer

4 A triangle has sides of 5 cm, 5 cm and 8 cm. What is its perimeter? [1]

Answer

5 A square has a perimeter of 32 m. How long is each side? [1]

Answer

6 A rectangle has a perimeter of 18 cm. Its length is 7 cm. How wide is it? [1]

Answer

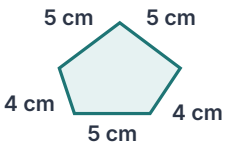
7 Perimeter or area? Painting a wall [1]

Answer

8 Which unit is right for the perimeter of a book cover: cm or sq cm? [1]

Answer

9 What is the perimeter of this shape? [1]



Answer

10 Both rectangles have a perimeter of 20 cm: 8 cm by 2 cm and 5 cm by 5 cm. Which has the bigger area? [1]

Answer

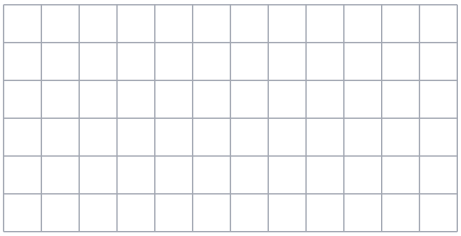
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SECTION B Show your working

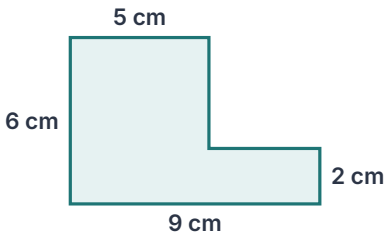
Marks are given for your method

11 Draw a rectangle on the grid with a perimeter of 14 units. Write its side lengths. [2]



Answer

12 Find the two missing side lengths. Then find the perimeter of the shape. [3]



Answer

13 A rectangle is 11 m long. Its perimeter is 28 m. [3]
(a) How wide is it? (b) Show how to check your answer.

Answer

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14 Write two different rectangles with whole-number sides that both have a perimeter of 24 cm. Find the area of each. [3]

Answer

15 Rana says the perimeter of a 4 cm by 2 cm rectangle is 8 cm. What did Rana do wrong? Find the right perimeter. [2]

Answer

16 A garden is 12 m long and 5 m wide. [4]
(a) How much fence goes all the way round it? (b) The gate is 1 m wide and does not need fence. How much fence is needed now?

Answer

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SECTION C Problem solving

Longer questions with several steps

17 A playground is a rectangle 9 m long and 5 m wide. [7]

(a) What is its perimeter? (b) What is its area?

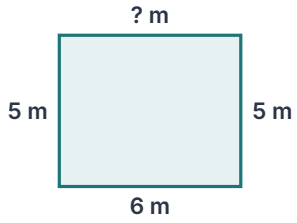
(c) A new playground will use the same length of fence but must have a **bigger** area. Give its side lengths and its area.

(d) Explain why two rectangles with the same perimeter can have different areas.

Answer

18 A flower bed has this shape. Its perimeter is 22 m. [6]

(a) Find the missing side. (b) Noor walks all the way round the flower bed 2 times. How far does Noor walk?



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	12 units	1	
2	26 cm	1	Unit needed.
3	20 in	1	Unit needed.
4	18 cm	1	
5	8 m	1	
6	2 cm	1	
7	area	1	
8	cm	1	
9	23 cm	1	
10	5 cm by 5 cm (25 sq cm)	1	
11	e.g. 4 by 3 or 5 by 2	2	1 mark for a correct rectangle; 1 mark for the side lengths.
12	missing sides 4 cm and 4 cm; perimeter 30 cm	3	1 mark for each missing side; 1 mark for the perimeter. Follow through.
13	(a) 3 m (b) 11 + 3 + 11 + 3 = 28	3	(a) 2 marks: 1 for 28 − 11 − 11 = 6 (or halving first). (b) 1 mark.
14	any two of: 6×6 (36), 7×5 (35), 8×4 (32), 9×3 (27), 10×2 (20), 11×1 (11) (areas in sq cm)	3	1 mark for each correct rectangle; 1 mark for both areas correct.
15	Rana multiplied (that is the area). Perimeter = 4 + 2 + 4 + 2 = 12 cm.	2	1 mark for the mistake; 1 mark for the right perimeter.
16	(a) 34 m (b) 34 − 1 = 33 m	4	(a) 2 marks: 1 for adding all four sides. (b) 2 marks: 1 for subtracting the gate. Follow through.
17	(a) 28 m (b) 45 sq m (c) e.g. 7 m by 7 m (49 sq m) (d) e.g. a square-like shape holds more space than a long thin one	7	(a) 2 marks. (b) 1 mark. (c) 3 marks: 1 for sides adding to 14, 1 for an area bigger than 45, 1 for the area worked out. (d) 1 mark.
18	(a) 22 − 16 = 6 m (b) 2 × 22 = 44 m	6	(a) 3 marks: 1 for adding the known sides, 1 for subtracting, 1 for the answer. (b) 3 marks: 1 for using the perimeter, 1 for multiplying (or adding), 1 for the answer. 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, 11	Perimeter on a grid	Pack 1 · Finding Perimeter, Part 1	
2, 3	Rectangles and squares	Pack 1 · Finding Perimeter, Part 2	
4, 9	Other shapes	Pack 1 · Finding Perimeter, Part 3	
5	Squares	Pack 2 · Missing Side Lengths, Part 2	
6, 13	Rectangles	Pack 2 · Missing Side Lengths, Part 1	
7, 8, 15	Perimeter or area?	Pack 3 · Perimeter & Area, Part 3	
10, 14	Same perimeter, different area	Pack 3 · Perimeter & Area, Part 1	
12	Other shapes	Pack 2 · Missing Side Lengths, Part 3	
16	Perimeter problems	Pack 1 · Finding Perimeter, Part 4	
17	Perimeter and area together	Pack 3 · Perimeter & Area, Parts 1 and 4	
18	Missing sides and perimeter problems	Pack 2 · Missing Side Lengths, Parts 3–4	

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