Perimeter of Polygons

Apply the skill to decisions and designs

Name _____ **Date** _____ **Score** _____ / 6

QUICK REVIEW

Perimeter is the distance around the outside. Add every outer side exactly once. Use length units, not square units. If one side is missing, subtract the known side lengths from the total perimeter.

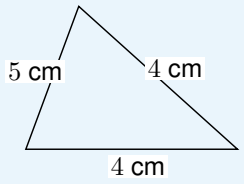
Worked example

Find the perimeter of this triangle. The drawing is not to scale.

1. Add the first two sides: $4 + 4 = 8$ cm.

2. Include the third side: $8 + 5 = 13$ cm.

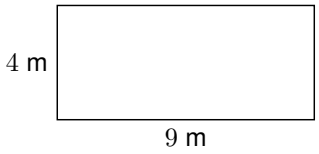
Answer: 13 cm.



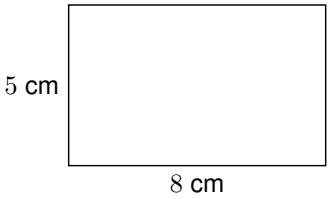
Practice Problems

Show your thinking.

1. A rectangular pen has sides 9 m and 4 m. A 2-m gate replaces part of the fence. How many meters of fence are needed?



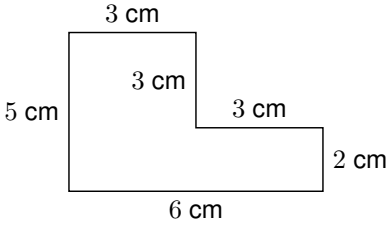
2. A ribbon is 23 cm long. Can it go all the way around this rectangle? How much more is needed?



3. Choose two different rectangles with whole-number sides and perimeter 20 cm. Each short side must be at least 3 cm, and each long side at most 7 cm. List both pairs of side lengths.

4. Two 4-m-by-3-m pens sit side by side and share one 3-m fence. Fence the outer edges and the shared divider. How many meters of fence are needed if the divider is counted once?

5. Find the perimeter of the L-shaped figure. Include the two sides of the inward step. The drawing is not to scale.



6. Trim goes around three triangular frames. Every frame has sides 3, 4, and 5 cm. A roll holds 40 cm. Can it trim all three? How much would be left?

Answer Key

1. 24 m.
2. No; 3 cm more.
3. For example, 7 by 3 cm and 6 by 4 cm.
4. 25 m.
5. 22 cm.
6. Yes; 4 cm left.

Step-by-Step Solutions

Follow each calculation, then check your own work.

Problem 1

1. The full boundary measures $9 + 4 + 9 + 4 = 26$ m.
2. The gate fills 2 m, so fence length is $26 - 2 = 24$ m.

Problem 2

1. The boundary needs $8 + 5 + 8 + 5 = 26$ cm.
2. The ribbon is short by $26 - 23 = 3$ cm.

Problem 3

1. One long and one short side total $20 \div 2 = 10$ cm.
2. Both $7 + 3$ and $6 + 4$ are 10. Doubling either sum gives 20 cm, and both side limits are met.

Problem 4

1. One pen uses $4 + 3 + 4 + 3 = 14$ m. Two separate perimeters would use $14 + 14 = 28$ m.
2. The shared 3 m was counted twice. Remove one copy: $28 - 3 = 25$ m.

Problem 5

1. The bottom, right, and two step lengths total $6 + 2 + 3 + 3 = 14$ cm.
2. Include top and left: $14 + 3 + 5 = 22$ cm.

Problem 6

1. One frame needs $3 + 4 + 5 = 12$ cm. Three need $3 \times 12 = 36$ cm.
2. The roll has enough, with $40 - 36 = 4$ cm left.

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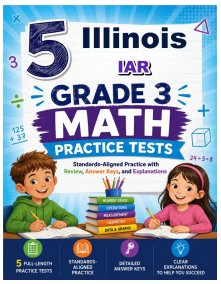

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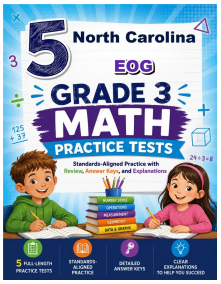

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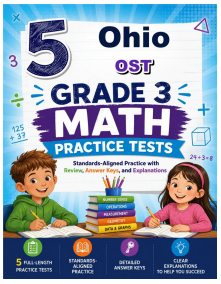

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