Area by Multiplying Side Lengths

Spot mistakes, reason, and work backward

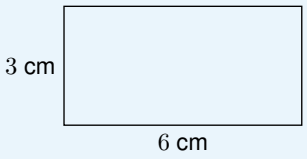
Name _____ **Date** _____ **Score** _____ / 6

QUICK REVIEW

For a rectangle, area equals length times width. A 7-cm-by-4-cm rectangle has area $7 \times 4 = 28$ cm^2. A missing side can be found by division: $28 \div 4 = 7$ cm. Adding the four sides finds perimeter, a different measurement.

Worked example

Find the area of the rectangle from its side lengths. Include square units.

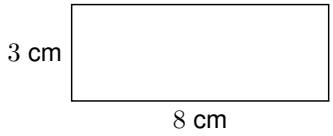


1. Each 1-cm-wide row contains 6 square centimeters, and there are 3 rows.
2. Area $= 6 \times 3 = 18$ cm^2.
Answer: 18 cm^2.

Practice Problems

Show your thinking.

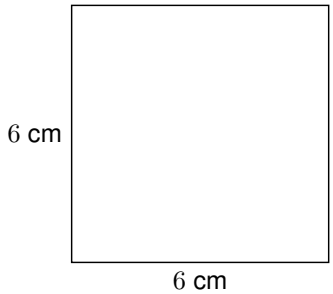
1. Noah adds all four sides and reports area 22 cm^2. Correct his operation and area.



2. The rectangle has area 35 cm^2 and one side 5 cm. Find the missing side.



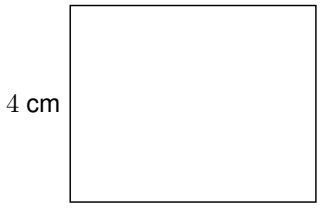
3. Design another rectangle with area 36 cm^2. Its height must be 1 cm. Find its length.



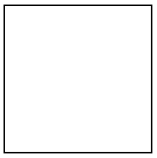
4. The rectangle has area 36 cm^2 and one side 4 cm. Find the missing side.



5. Noah adds all four sides and reports area 18 cm^2. Correct his operation and area.



6. Design a square banner with whole-centimeter sides and area at least 40 cm^2. Find the smallest possible side length.



Answer Key

1. 24 cm^2.
2. 7 cm.
3. Length 36 cm.
4. 9 cm.
5. 20 cm^2.
6. 7 cm; area 49 cm^2.

Step-by-Step Solutions

Follow each calculation, then check your own work.

Problem 1

1. $8 + 3 + 8 + 3 = 22$ measures the edge length in cm, not area.
2. Area uses the two side lengths multiplied: $8 \times 3 = 24$ cm^2.

Problem 2

1. The side must satisfy $\square \times 5 = 35$. Divide: $35 \div 5 = 7$.
2. Check: $7 \times 5 = 35$ cm^2, so the missing length is 7 cm.

Problem 3

1. The original area is $6 \times 6 = 36$ cm^2.
2. The new length solves $1 \times \square = 36$, so use 36 cm. Check $1 \times 36 = 36$.

Problem 4

1. The side must satisfy $\square \times 4 = 36$. Divide: $36 \div 4 = 9$.
2. Check: $9 \times 4 = 36$ cm^2, so the missing length is 9 cm.

Problem 5

1. $5 + 4 + 5 + 4 = 18$ measures the edge length in cm, not area.
2. Area uses the two side lengths multiplied: $5 \times 4 = 20$ cm^2.

Problem 6

1. A side of 6 cm gives $6 \times 6 = 36$ cm^2, less than 40.
2. A side of 7 cm gives $7 \times 7 = 49$ cm^2, enough. Any shorter whole-number side is no better than 6 cm.

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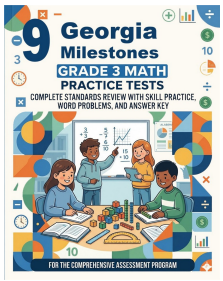

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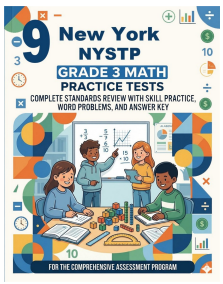

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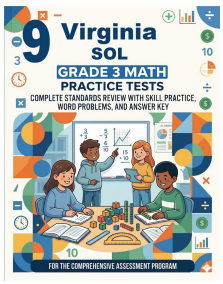

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