Area by Multiplying Side Lengths

Explore ideas and representations

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.

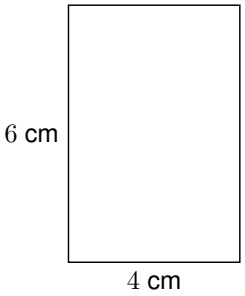
Practice Problems

Show your thinking.

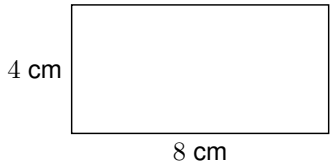
1. Find the area of the rectangle from its side lengths. Include square units.



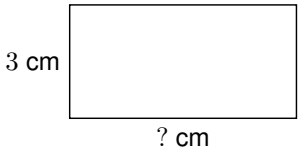
2. Find the area of the rectangle from its side lengths. Include square units.



3. Compare a 8-cm-by-4-cm rectangle with a 7-cm-by-5-cm rectangle. Which has more area?



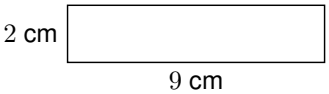
4. The rectangle has area 15 cm^2 and one side 3 cm. Find the missing side.



5. Noah adds all four sides and reports area 20 cm^2. Correct his operation and area.



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



Answer Key

1. 21 cm^2.
2. 24 cm^2.
3. Areas 32 cm^2 and 35 cm^2; second larger.
4. 5 cm.
5. 24 cm^2.
6. 18 cm^2.

Step-by-Step Solutions

Follow each calculation, then check your own work.

Problem 1

1. Each 1-cm-wide row contains 7 square centimeters, and there are 3 rows.

2. Area $= 7 \times 3 = 21$ cm^2.

Problem 2

1. Each 1-cm-wide row contains 4 square centimeters, and there are 6 rows.

2. Area $= 4 \times 6 = 24$ cm^2.

Problem 3

1. First area: $8 \times 4 = 32$ cm^2.

2. Second area: $7 \times 5 = 35$ cm^2. Compare 32 and 35, not just a single side.

Problem 4

1. The side must satisfy $\square \times 3 = 15$. Divide: $15 \div 3 = 5$.

2. Check: $5 \times 3 = 15$ cm^2, so the missing length is 5 cm.

Problem 5

1. $6 + 4 + 6 + 4 = 20$ measures the edge length in cm, not area.

2. Area uses the two side lengths multiplied: $6 \times 4 = 24$ cm^2.

Problem 6

1. Each 1-cm-wide row contains 9 square centimeters, and there are 2 rows.

2. Area $= 9 \times 2 = 18$ cm^2.

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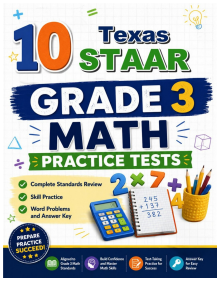

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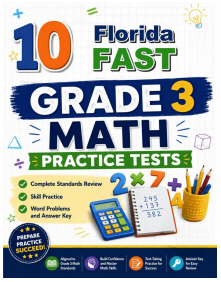

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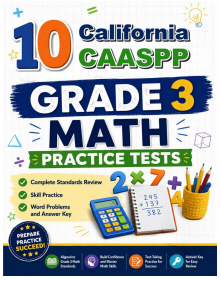

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