Classifying 2D Figures

Explore ideas and representations

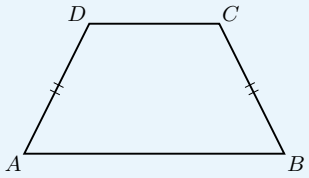
Name _____ **Date** _____ **Score** _____ / 6

QUICK REVIEW

Classify using attributes, not the direction a shape faces. A rectangle has 4 right angles; a square has 4 right angles and 4 equal sides, so every square is a rectangle. A parallelogram has 2 pairs of parallel sides. Here trapezoid means exactly 1 parallel pair. A right triangle has one $90°$ angle; an acute triangle has three acute angles.

Worked example

Name this figure as specifically as possible and give its attributes.

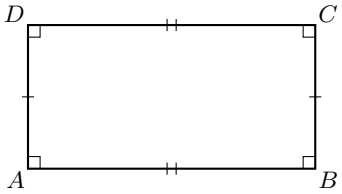


1. The figure has 4 sides, so it is a quadrilateral.
2. It has 1 pair(s) of opposite parallel sides and 0 right angles.
3. Exactly one pair of parallel sides makes a trapezoid under the definition used here.
Answer: Trapezoid.

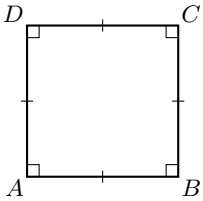
Practice Problems

Show your thinking.

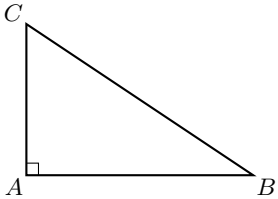
1. Classify the figure using its right-angle marks.



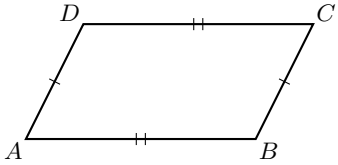
2. Use equal-side and right-angle marks to give the most specific name.



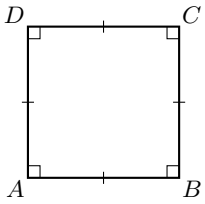
3. Classify this triangle by its angles.



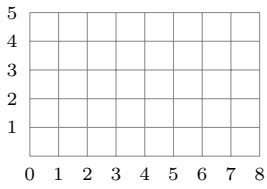
4. Name the quadrilateral with two opposite parallel pairs.



5. A child says a square cannot be a rectangle. Correct the claim using the marked figure.



6. Draw a quadrilateral with 4 right angles and unequal adjacent side lengths on this grid. Name it.



Answer Key

1. Rectangle.
2. Square.
3. Right triangle.
4. Parallelogram.
5. Every square is a rectangle.
6. For example, a 5 by 3 rectangle.

Step-by-Step Solutions

Follow each calculation, then check your own work.

Problem 1

1. The figure has 4 sides, so it is a quadrilateral.
2. It has 2 pair(s) of opposite parallel sides and 4 right angles.
3. Four right angles make a rectangle (also a parallelogram).

Problem 2

1. The figure has 4 sides, so it is a quadrilateral.
2. It has 2 pair(s) of opposite parallel sides and 4 right angles.
3. Four equal sides and four right angles make a square (also a rectangle and rhombus).

Problem 3

1. The figure has 3 straight sides, so it is a triangle.
2. It has 1 right angle(s) and 0 obtuse angle(s).
3. One angle is $90°$, so this is a right triangle.

Problem 4

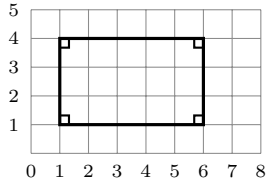
1. The figure has 4 sides, so it is a quadrilateral.
2. It has 2 pair(s) of opposite parallel sides and 0 right angles.
3. Two pairs of opposite parallel sides make a parallelogram.

Problem 5

1. The square has 4 right angles.
2. A rectangle requires 4 right angles, so the square meets that rule.
3. Its 4 equal sides add a special property; they do not remove it from the rectangle family.

Problem 6

1. Draw 5 units horizontally and 3 vertically.
2. Close the opposite sides; the grid directions form 4 right angles.
3. Because $5 \neq 3$, it is a rectangle but not a square.



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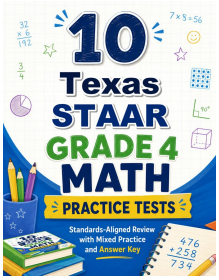

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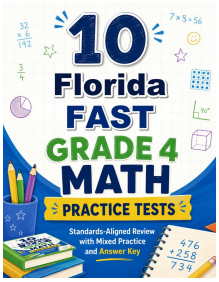

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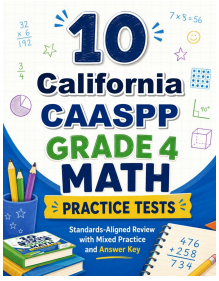

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