Shape Categories

Apply the skill to decisions and designs

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

QUICK REVIEW

Classify by attributes, not by how a shape is turned. A quadrilateral has 4 straight sides. A rectangle is a quadrilateral with 4 right angles. A rhombus is a quadrilateral with 4 equal sides. A shape can fit more than one rule.

Worked example

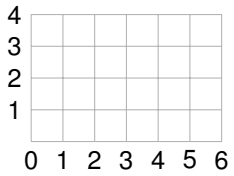
A shape has 4 straight sides, no right angles, and no equal sides. Which names fit: quadrilateral, rectangle, rhombus?

1. Count the sides: all 4 straight sides meet the quadrilateral rule.
2. It has neither 4 right angles nor 4 equal sides, so the other two categories do not fit.
Answer: Quadrilateral only.

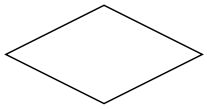
Practice Problems

Show your thinking.

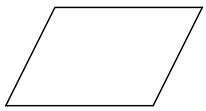
1. A sign must have 4 straight sides and 4 right angles, but must not have all sides equal. Name a suitable category and sketch one.



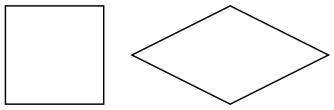
2. A logo must be a quadrilateral but must not have right angles. Does this shape meet the rules? Give two checks.



3. Name this shape and give two facts that support its category.

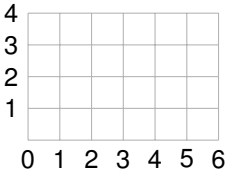


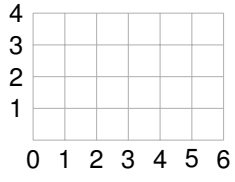
4. Compare the square and the slanted rhombus. State a category both share, and a category that only the square has.



5. A sign begins as a 5-by-3 rectangle. The maker shortens the two 5-unit sides to 3 units while keeping all four corners right angles. Which new categories now fit? Which old category still fits?

6. A logo rule requires 4 equal sides but says nothing about right angles. Draw two different examples: one with right angles and one without. Name both.





Answer Key

1. A nonsquare rectangle; for example 4 units by 2 units.
2. Yes; it is a rhombus and a quadrilateral.
3. Parallelogram.
4. Both are rhombuses and quadrilaterals; only the square is a rectangle.
5. It becomes a square and still fits rectangle. It also fits rhombus.
6. A square and a nonsquare rhombus.

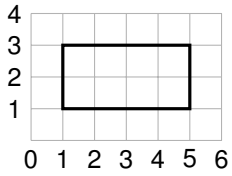
Step-by-Step Solutions

Follow each calculation, then check your own work.

Problem 1

1. A 4-by-2 rectangle has 4 sides with 4 right angles.

2. Its side lengths are $4, 2, 4, 2$; because $4 \neq 2$, not all sides are equal. It meets all the sign rules.



Problem 2

1. The shape has 4 straight sides, satisfying quadrilateral.

2. Its 4 corners are slanted, not right angles, so it also satisfies the no-right-angle rule.

Problem 3

1. It has 4 sides and 2 pairs of opposite parallel sides; its corners are not right angles.

2. Its 4 sides also make it a quadrilateral.

Problem 4

1. Both figures have 4 equal sides, so both meet the rhombus rule and the 4-side quadrilateral rule.

2. The square has 4 right angles, so it is a rectangle. The slanted rhombus has no right angles and is not a rectangle.

Problem 5

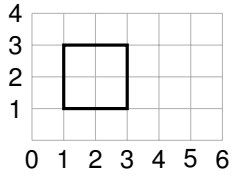
1. At first the side lengths $5, 3, 5, 3$ are not all equal. After the change all 4 sides have length 3.

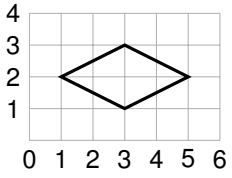
2. The 4 equal sides and 4 right angles make a square. Keeping 4 right angles preserves the rectangle rule.

Problem 6

1. A square meets the rule with 4 equal sides and 4 right angles.

2. A slanted rhombus also has 4 equal sides but has no right angles. The rule allows both because it does not require right angles.



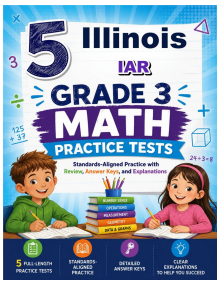


TESTINAR

Keep Building Grade 3 Math Skills

Choose the practice book matched to your state assessment and turn worksheet practice into a complete test-prep plan.

All Grade 3 books



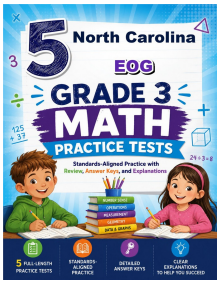
ILLINOIS IAR

5 Full-Length Math Practice Tests

Build Grade 3 accuracy, confidence, and test stamina with 5 printable practice tests.

Printable eBook • Instant PDF access

View eBook



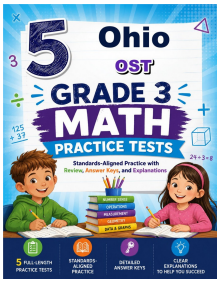
NORTH CAROLINA EOG

5 Full-Length Math Practice Tests

Build Grade 3 accuracy, confidence, and test stamina with 5 printable practice tests.

Printable eBook • Instant PDF access

View eBook



OHIO OST

5 Full-Length Math Practice Tests

Build Grade 3 accuracy, confidence, and test stamina with 5 printable practice tests.

Printable eBook • Instant PDF access

View eBook

Need a different state?
Testinar has Grade 3 math practice books for state assessments across the country.

TESTINAR.COM/GRADES/3