

Polygon Property Quest

Use sides, angles, and lengths to sort shapes.

GRADE 5 • 5.GSR.8.1

5.GSR.8.1 "Classify, compare, and contrast polygons based on properties."

NAME _____

DATE _____

SPOT THE PROPERTIES

A polygon is a closed, flat shape made only of straight sides. Count its sides and vertices to name it, then look for special properties such as equal side lengths or right angles.

WORKED EXAMPLE

A game token is a closed shape with 10 straight sides and 10 vertices. What polygon is it?

1. The shape is closed and has only straight sides, so it is a polygon.
2. It has 10 sides.
3. A polygon with 10 sides is a decagon.

Answer: decagon

PRACTICE 6 problems

- 1** A polygon has 3 sides and 3 vertices. Name the polygon.

ANSWER _____

- 2** How many vertices does a quadrilateral have?

ANSWER _____

- 3** A pentagon and a hexagon are compared. Which polygon has more sides?

ANSWER _____

- 4** A closed polygon has 4 equal sides and 4 right angles. Name the polygon.

ANSWER _____

- 5** Write one way a triangle and a quadrilateral are alike and one way they are different.

ANSWER _____

- 6** A shape is closed, but one of its sides is curved. Is it a polygon? Explain.

ANSWER _____

APPLY IT Show your work

- 1** Jalen is making a team badge. The badge is a closed shape with 5 straight sides and 5 vertices. What kind of polygon is Jalen's badge?

WORK SPACE

ANSWER _____

- 2** A video game club makes two signs. Sign A has 4 equal sides and 4 right angles. Sign B has 4 equal sides but no right angles. Name each sign and tell one property they share.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Shape P has 4 equal sides and no right angles. Shape Q has 4 equal sides and 4 right angles. Name both shapes. Then explain why Shape Q can also be called a rhombus.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A polygon has 3 sides and 3 vertices. Name the polygon.	triangle
2	How many vertices does a quadrilateral have?	4 vertices
3	A pentagon and a hexagon are compared. Which polygon has more sides?	hexagon
4	A closed polygon has 4 equal sides and 4 right angles. Name the polygon.	square
5	Write one way a triangle and a quadrilateral are alike and one way they are different.	Alike: Both are closed polygons with straight sides. Different: A triangle has 3 sides, and a quadrilateral has 4 sides.
6	A shape is closed, but one of its sides is curved. Is it a polygon? Explain.	No. A polygon must have only straight sides.

PART 2 • APPLY IT

1. **pentagon** Count the badge's 5 sides. A polygon with 5 sides is a pentagon.
2. **Sign A is a square. Sign B is a rhombus. Both have 4 equal sides.** Four equal sides and 4 right angles identify a square. Four equal sides without right angles identify a rhombus.

CHALLENGE

Shape P is a rhombus. Shape Q is a square and also a rhombus. A rhombus has 4 equal sides, and Shape Q has 4 equal sides.

Accept equivalent statements about shared and different properties when they are accurate. For the challenge, accept that a square is a rhombus because it has 4 equal sides.