

Shape Feature Sort

Group figures by sides, corners, lengths and edges.

GRADE 2 • MA.2.GR.1.2

MA.2.GR.1.2 "Categorize two-dimensional figures based on the number and length of sides, number of vertices, whether they are closed or not and whether the edges are curved or straight."

NAME _____

DATE _____

LOOK, DESCRIBE AND EXPLAIN

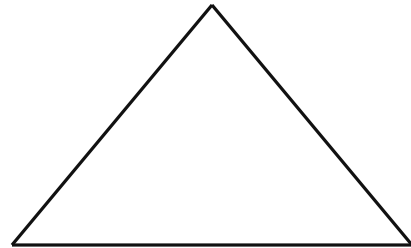
A vertex is a corner where straight sides meet. Closed figures have no gaps. Straight edges do not bend; curved edges bend. Compare side lengths as well as the number of sides and vertices.

WORKED EXAMPLE

Describe this triangle by its edges and corners.

1. It is closed: the edges join all the way around.
2. It has 3 straight sides and 3 vertices (corners).
3. The 2 sloping sides match in length; the bottom side is longer.

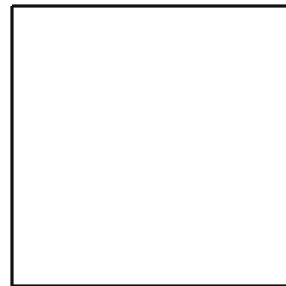
Answer: Closed; straight edges; 3 sides and 3 vertices; 2 equal shorter sides and 1 longer side.



PRACTICE 4 problems

- 1** Count this square's straight sides and vertices. Are all its sides equal, or are some longer?

ANSWER _____



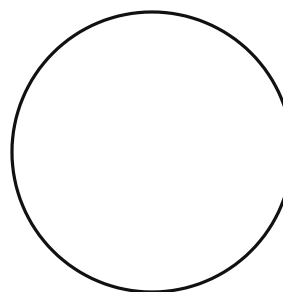
- 2** Compare this rectangle with the square in problem 1. What is the same? Group its side lengths as all equal or 2 long and 2 short.

ANSWER _____



- 3** Group this circle as closed or open, and curved or straight. How many vertices does it have?

ANSWER _____



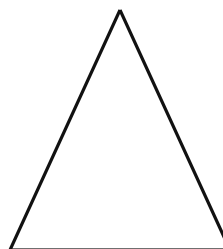
- 4** Look for a gap in this outline. Group it as closed or open, and curved or straight.

ANSWER _____

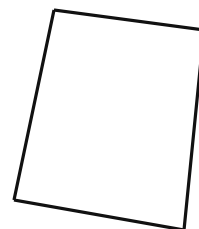


APPLY IT Show your work

- 1** These are two paper decorations. Group A and B by their number of vertices: 3 or 4.



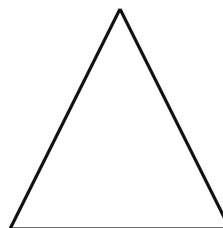
A



B

Both outlines use 3 straight segments.

- 2** Group A and B as closed or open. Explain what makes the groups different.



A



B

CHALLENGE One step up

Draw a closed figure with 4 equal straight sides in A.
Draw a closed figure with 2 long and 2 short straight sides in B. Count the vertices in each.

WORK SPACE AND ANSWER

A

B

Read directions aloud as needed. Judge the printed figures. A circle has a curved boundary and no vertices; do not count the ends of the open outline as polygon corners. Accept informal words such as corners and matching lengths. Drawing answers can vary if every named attribute is satisfied. The example describes a triangle; students compare, classify and construct other figures.

PRACTICE 1

4 straight sides; 4 vertices; all 4 sides have equal length.

PRACTICE 2

Both are closed with 4 straight sides and 4 vertices. This rectangle has 2 long and 2 short sides.

PRACTICE 3

Closed; curved edge; 0 vertices.

PRACTICE 4

Open; straight edges. The bottom gap keeps it from being closed.

APPLY IT 1

A has 3 vertices; B has 4 vertices.
Count each corner once.

APPLY IT 2

A is closed; B is open. A joins all the way around; B has a gap.
A side count alone does not tell whether an outline is closed.

CHALLENGE

**A can be a square; B can be a non-square rectangle.
Each has 4 vertices.**

A



B

