

Triangle Detective

Sort shapes by the number of sides and angles.

CCSS.Math.Content.2.G.A.1 "Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. 1 Identify triangles, quadrilaterals, pentagons, hexagons, and cubes."

NAME _____

DATE _____

TRIANGLE

A triangle is a flat shape with 3 straight sides and 3 angles. It can point in any direction.

A boat sail with 3 straight sides is a triangle.

NOT A TRIANGLE

Put any shape that is not a triangle in OTHER. It may have a different number of sides, or it may be a solid.

A circular coin goes in OTHER.

1 SORT _____ 8 items

Part 1, SORT: Circle TRIANGLES or OTHER for each item; Part 2, PROVE IT: Pick two items and tell how you knew each answer.

1. A shape with 3 straight sides

TRIANGLES

OTHER

2. A square

TRIANGLES

OTHER

3. A hexagon

TRIANGLES

OTHER

4. A triangle turned upside down

TRIANGLES

OTHER

5. A skinny triangle

TRIANGLES

OTHER

6. A pentagon

TRIANGLES

OTHER

7. A shape with 3 angles

TRIANGLES

OTHER

8. A cube

TRIANGLES

OTHER

2 PROVE IT Explain your thinking

Pick two items from Part 1. For each one, tell how you knew where it belonged.

ITEM # _____ HOW I KNEW _____

ITEM # _____ HOW I KNEW _____

3 MAKE YOUR OWN One of each

Part 3, MAKE YOUR OWN: Write one new example for TRIANGLES and one new example for OTHER.

TRIANGLES _____

OTHER _____

CHALLENGE

Draw a triangle that points up and a triangle that points down. Mark the 3 angles on each shape.

PART 1 • SORT

#	ITEM	CATEGORY	WHY
1	A shape with 3 straight sides	TRIANGLES	It has 3 straight sides, so it is a triangle.
2	A square	OTHER	A square has 4 sides, not 3.
3	A hexagon	OTHER	A hexagon has 6 sides, not 3.
4	A triangle turned upside down	TRIANGLES	Turning a triangle does not change its 3 sides or 3 angles.
5	A skinny triangle	TRIANGLES	A skinny triangle still has 3 sides and 3 angles.
6	A pentagon	OTHER	A pentagon has 5 sides, not 3.
7	A shape with 3 angles	TRIANGLES	A flat shape with 3 angles is a triangle.
8	A cube	OTHER	A cube is a solid, not a flat triangle.

PART 2 • PROVE IT

Accept any explanation that names the deciding feature from the rule box for the chosen item.

PART 3 • MAKE YOUR OWN (SAMPLE ANSWERS)

- **TRIANGLES:** A triangle with 3 equal sides.
- **OTHER:** An octagon.

Challenge: A narrow triangle pointing up and a wide triangle pointing down, each marked with 3 angles.

For Part 2, accept explanations that mention 3 sides, 3 angles, or that turning a triangle does not change it. For Part 3, accept any correct new triangle and any shape or solid that is not a triangle.