Reasoning and Problem Solving
Step 2: Count Sides on 2D Shapes

National Curriculum Objectives:

Mathematics Year 2: (2G1a) Compare and sort common 2-D shapes and everyday objects
Mathematics Year 2: (2G2a) Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line

Differentiation:

Questions 1, 4 and 7 (Reasoning)
Developing Find and explain which shape is the odd one out. Includes regular shapes only.
Expected Find and explain which shape is the odd one out. Includes regular and irregular shapes. Shapes presented in different orientations and sizes.
Greater Depth Find and explain which shape is the odd one out. Includes irregular shapes only. Shapes presented in different orientations and sizes.

Questions 2, 5 and 8 (Reasoning)
Developing Explain if a statement is correct about the number of sides a shape has. Includes regular shapes only.
Expected Explain if a statement is correct about the name of a shape and its number of sides. Regular shapes presented in different orientations and sizes.
Greater Depth Explain if a statement is correct about the name of a shape and its number of sides. Includes irregular shapes only. Shapes presented in different orientations and sizes.

Questions 3, 6 and 9 (Problem Solving)
Developing Investigate and compare the number of sides of multiple shapes. Includes 2 types of shape. Pictures of all shapes provided.
Expected Investigate and compare the number of sides of multiple shapes. Includes 3 types of shape. One picture for each type of shape provided. Shapes presented in different orientations and sizes.
Greater Depth Investigate and compare the number of sides of multiple shapes. Includes 4 types of shape. No pictures provided.
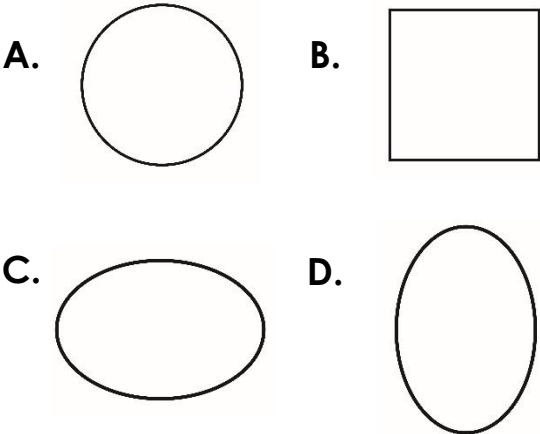
More Year 2 Properties of Shape resources.

Did you like this resource? Don't forget to review it on our website.

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Count Sides on 2D Shapes

Count Sides on 2D Shapes

1a. Which shape is the odd one out?

A. B.

C. D.
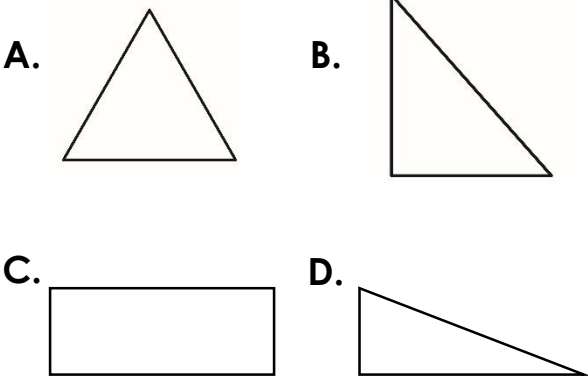
Explain your answer.

R

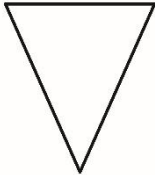**1b.** Which shape is the odd one out?

A. B.

C. D.

Explain your answer.

R

2a. Mrs Patel shows Class 2 a shape.

Max says,

> This shape is a triangle because it has 3 sides.

Is Max correct? Explain how you know.

R

2b. Mr Gregory shows Class 2 a shape.
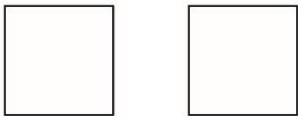
Jen says,

> This shape is a rectangle because it has 5 sides.

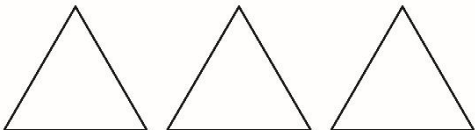Is Jen correct? Explain how you know.

R

3a. Which has the most number of sides?
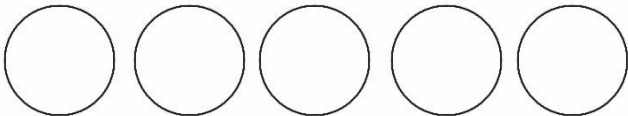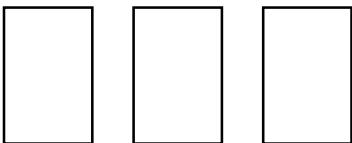
2 squares

3 triangles

PS

3b. Which has the most number of sides?

5 circles

3 rectangles

PS

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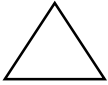**Reasoning and Problem Solving – Count Sides on 2D Shapes – Year 2 Developing**

Count Sides on 2D Shapes

Count Sides on 2D Shapes

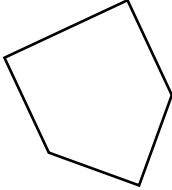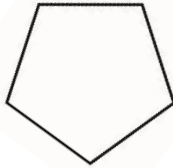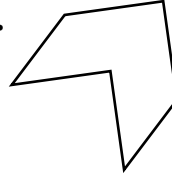**4a.** Which shape is the odd one out?
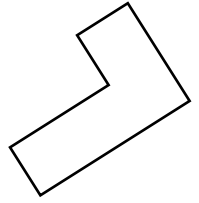
A.

B.

C.

D.

Explain your answer.
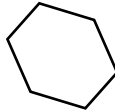
R

4b. Which shape is the odd one out?
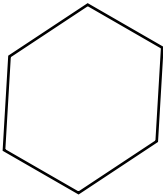
A.

B.

C.

D.

Explain your answer.

R

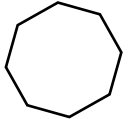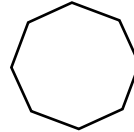**5a.** Mrs Hall shows Class 2 some shapes.

Joe says,

> These are all octagons because they have 6 sides.

Is Joe correct? Explain how you know.

R

5b. Mr Jones shows Class 2 some shapes.

Ellie says,

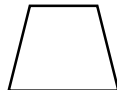> These are all pentagons because they have 8 sides.
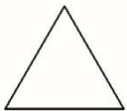
Is Ellie correct? Explain how you know.

R

6a. Which has the most number of sides?
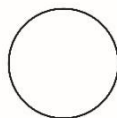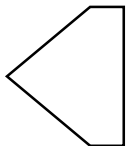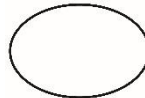
3 quadrilaterals

5 triangles

13 circles

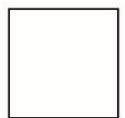PS

6b. Which has the most number of sides?

3 pentagons

8 ovals

4 squares

PS

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Reasoning and Problem Solving – Count Sides on 2D Shapes – Year 2 Expected

Count Sides on 2D Shapes

Count Sides on 2D Shapes

7a. Which shape is the odd one out?

A.

B.

C.

D.
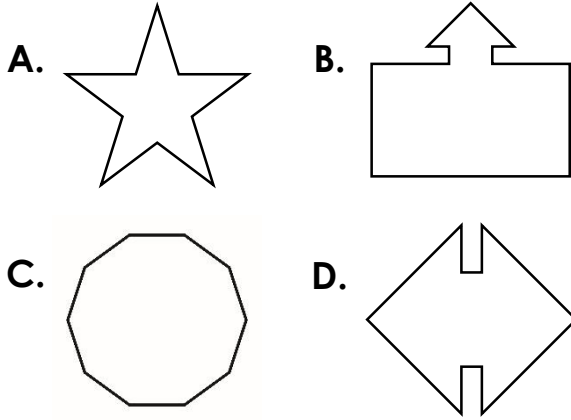
Explain your answer.

7b. Which shape is the odd one out?

A.

B.

C.

D.
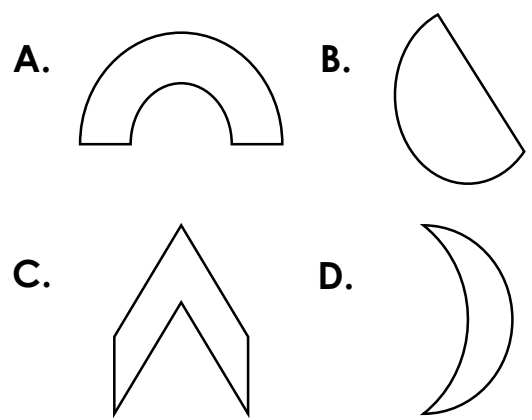
Explain your answer.

8a. Mrs Machin shows Class 2 some shapes.
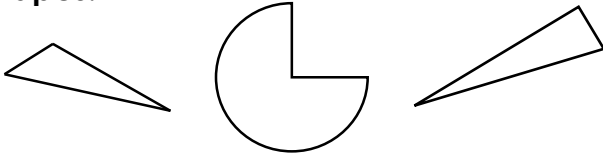
Seth says,

These shapes are triangles because they have 3 sides.

Is Seth correct? Explain how you know.

8b. Mr Gordon shows Class 2 some shapes.
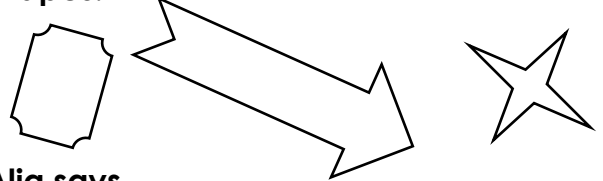
Alia says,

These shapes are irregular octagons because they have 8 sides.

Is Alia correct? Explain how you know.

9a. Which has the most number of sides?

3 hexagons

4 quadrilaterals

2 octagons

4 pentagons

9b. Which has the most number of sides?

2 octagons

3 triangles

5 semi-circles

2 hexagons

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Reasoning and Problem Solving – Count Sides on 2D Shapes – Year 2 Greater Depth

Reasoning and Problem Solving
Count Sides on 2D Shapes

Developing
1a. B. Various answers, for example: B is the odd one out because it has 4 sides and the other shapes have 1 side.
2a. Max is correct. The shape has 3 straight sides so it is a triangle.
3a. 3 triangles have the most number of sides.
3 triangles = 9 sides; 2 squares = 8 sides

Expected
4a. A. Various answers for example: A is the odd one out because it has 3 sides and the other shapes have 5 sides.
5a. Joe is incorrect. The shapes do have 6 sides bu they are hexagons.
6a. 5 triangles have the most number of sides.
5 triangles = 15 sides; 3 quadrilaterals = 12 sides;13 circles = 13 sides

Greater Depth
7a. B. Various answers, for example: B is the odd one out because it has 11 sides and the other shapes have 10 sides.
8a. Seth is incorrect. Triangles have 3 straight sides. The shape in the middle has 2 straight sides and 1 curved side.
9a. 4 pentagons have the most number of sides.
4 pentagons = 20 sides; 3 hexagons = 18 sides; 4 quadrilaterals = 16 sides; 2 octagons = 16 sides

Reasoning and Problem Solving
Count Sides on 2D Shapes

Developing
1b. C. Various answers, for example: C is the odd one out because it has 4 sides and the other shapes have 3 sides.
2b. Jen is incorrect. The shape is a rectangle but it has 4 sides.
3b. 3 rectangles have the most number of sides.
3 rectangles =12 sides; 5 circles = 5 sides

Expected
4b. D. Various answers, for example: D is the odd one out because it has 8 sides and the other shapes have 6 sides.
5b. Ellie is incorrect. The shapes do have 8 sides but they are octagons.
6b. 4 squares have the most number of sides.
4 squares = 16 sides; 3 pentagons = 15 sides; 8 ovals = 8 sides

Greater Depth
7b. C. Various answers, for example: C is the odd one out because it does not have any curved sides and the other shapes have 1 or 2 curved sides.
8b. Alia is correct. The shapes have 8 sides so they are octagons and they are not regular shapes with equal sides.
9b. 2 octagons have the most number of sides.
2 octagons = 16 sides; 2 hexagons = 12 sides; 5 semi-circles = 10 sides; 3 triangles = 9 sides

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