



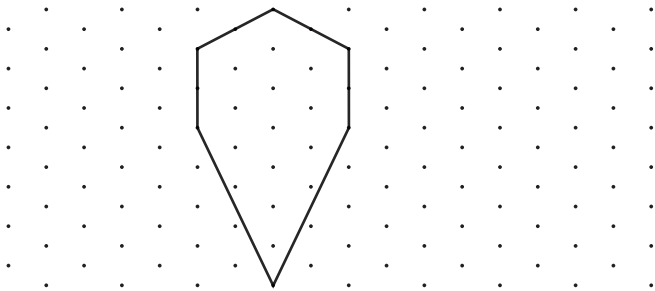
1) a)

	Regular Polygon	Irregular Polygon
Quadrilateral	D	B, C (e.g. parallelogram, trapezium)
Not a Quadrilateral	A	E

b) Accept any correct answer, for example please see table above. Ensure this is written in the correct section.

c) Equilateral triangle

2) Accept any correct answer, for example:



The polygon must have six sides and the sides and/or angles must be different sizes.

1) a) No. The rhombus shown is not a regular shape because although the sides are the same length, the interior angles are not all the same size.



b) A rhombus must have four sides of the same length. As a result, a square is a type of rhombus and is therefore an example of a regular rhombus.

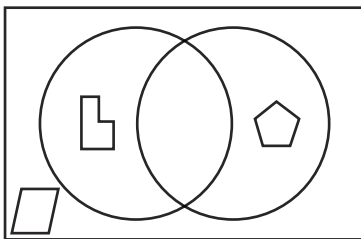
1) a) Accept any correct answer, for example:

A has at least one right angle

B regular polygon



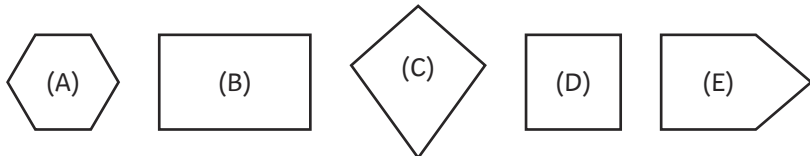
b) Accept any correct answer which matches the correct labels given in answer 1a, for example:



2) Teacher to check labels and sorting of polygons.



1) a) Sort these 2D shapes in the Carroll diagram. Put the letters A-E in the correct places.



	Regular Polygon	Irregular Polygon
Quadrilateral		
Not a Quadrilateral		

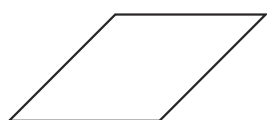
b) Write the name of a different 2D shape that is an example of an irregular quadrilateral in the correct place on the diagram.

c) What type of triangle must be placed in the 'regular' and 'not a quadrilateral' section?

2) Draw an example of an irregular hexagon. Convince your partner that you have drawn an irregular hexagon.



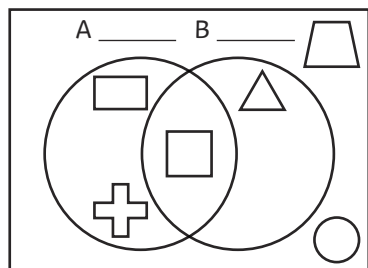
1) a) Niall says that this rhombus is a regular polygon because all the sides are the same length.



Do you agree? Explain your answer.

b) Is a rhombus always an irregular polygon? Explain your answer.

1) a) Terri has sorted some polygons in a Venn diagram. What could the labels be for each set?

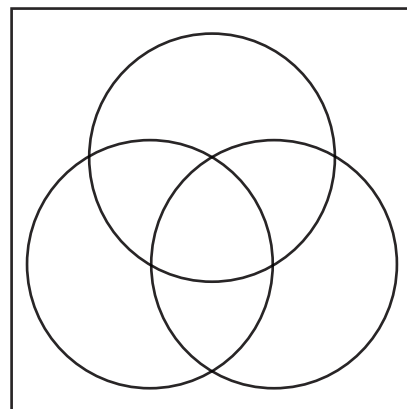


A _____

B _____

b) Draw a different 2D shape to those shown that could go in any two sections of the Venn diagram.

2) Create your own Venn diagram with three intersecting circles, as shown, to sort regular and irregular polygons alongside other properties of your choice.



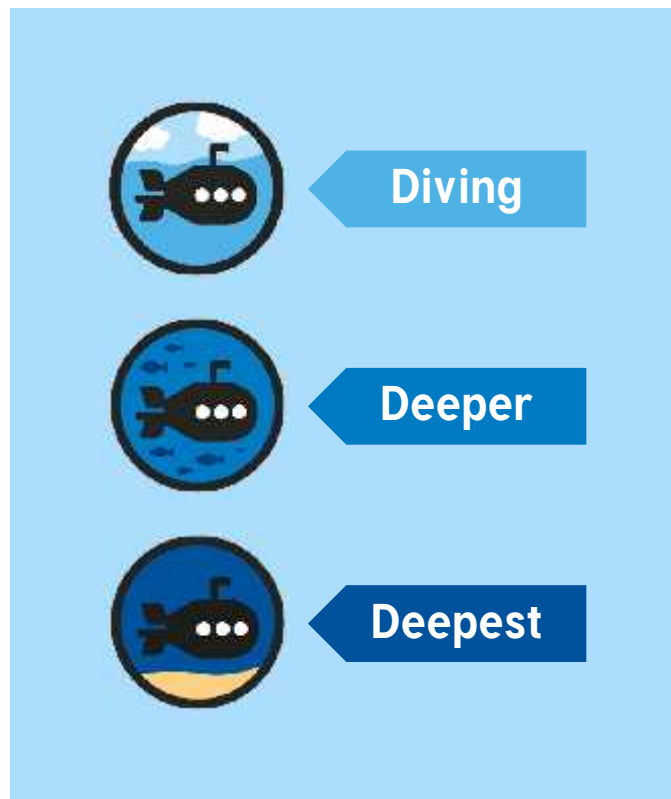
Diving into Mastery



Regular and Irregular Polygons

Diving into Mastery Guidance for Educators

Each activity sheet is split into three sections, diving, deeper and deepest, which are represented by the following icons:



These carefully designed activities take your children through a learning journey, initially ensuring they are fluent with the key concept being taught; then applying this to a range of reasoning and problem-solving activities.

These sheets might not necessarily be used in a linear way. Some children might begin at the 'Deeper' section and in fact, others may 'dive straight in' to the 'Deepest' section if they have already mastered the skill and are applying this to show their depth of understanding.

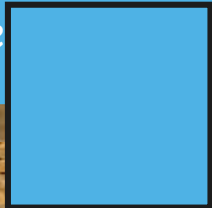
Aim

- Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.





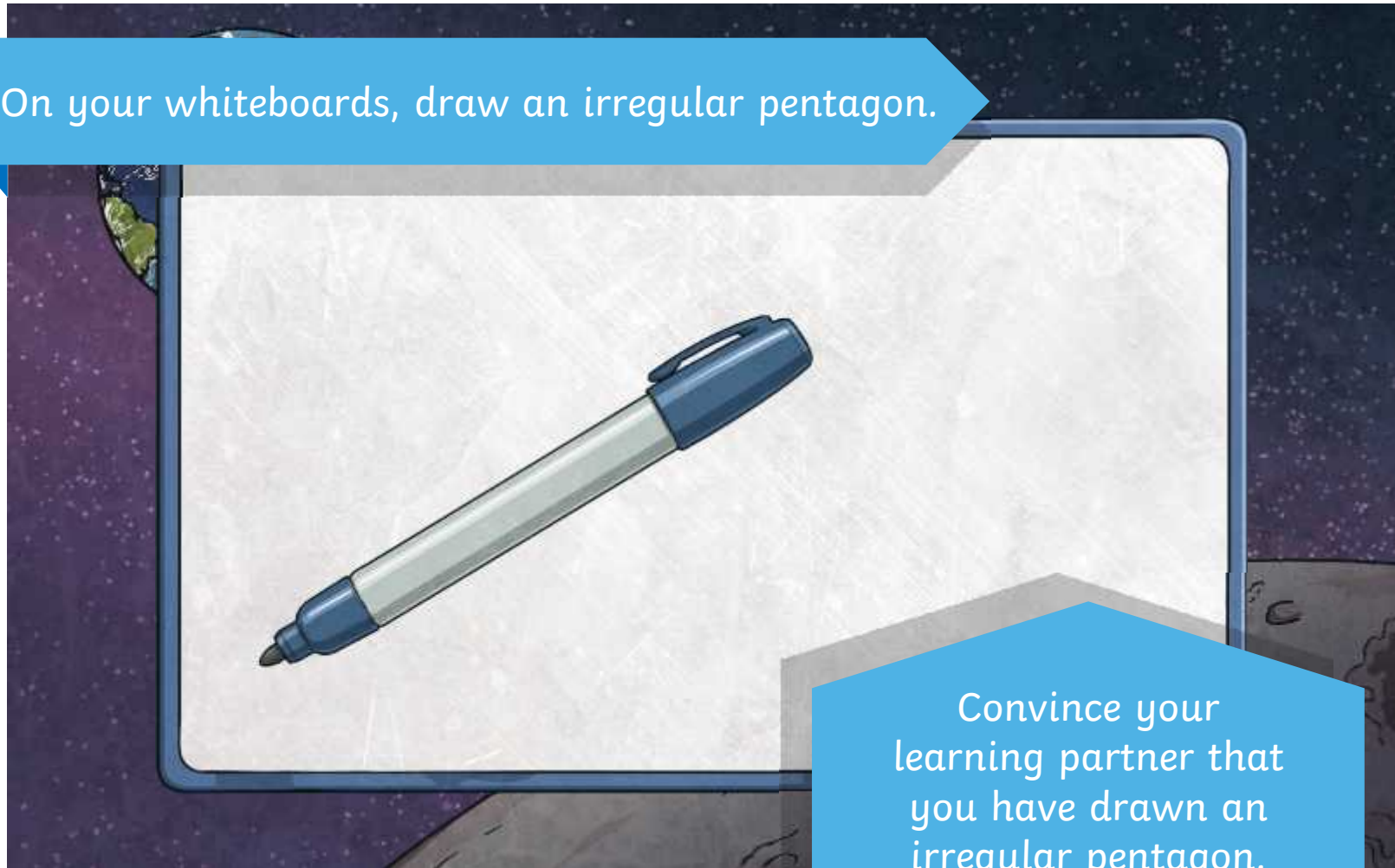
Sort the shapes in the Carroll diagram



	Regular polygon	Irregular polygon
At least one right angle		
No right angles		



On your whiteboards, draw an irregular pentagon.



Convince your learning partner that you have drawn an irregular pentagon.

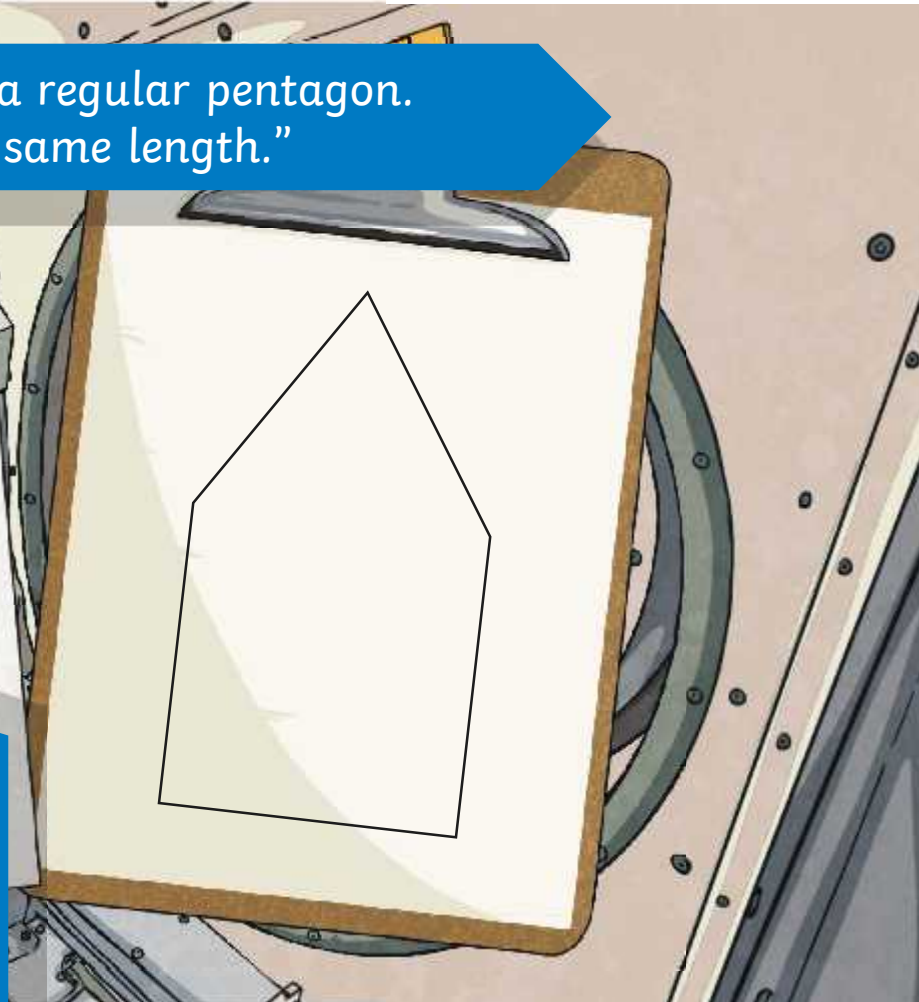


Sam says, "I have drawn a regular pentagon. All the sides are the same length."

I do not agree with Sam. The pentagon is not regular because the angles are not the same size as each other. To be a regular shape, the sides AND angles must be of

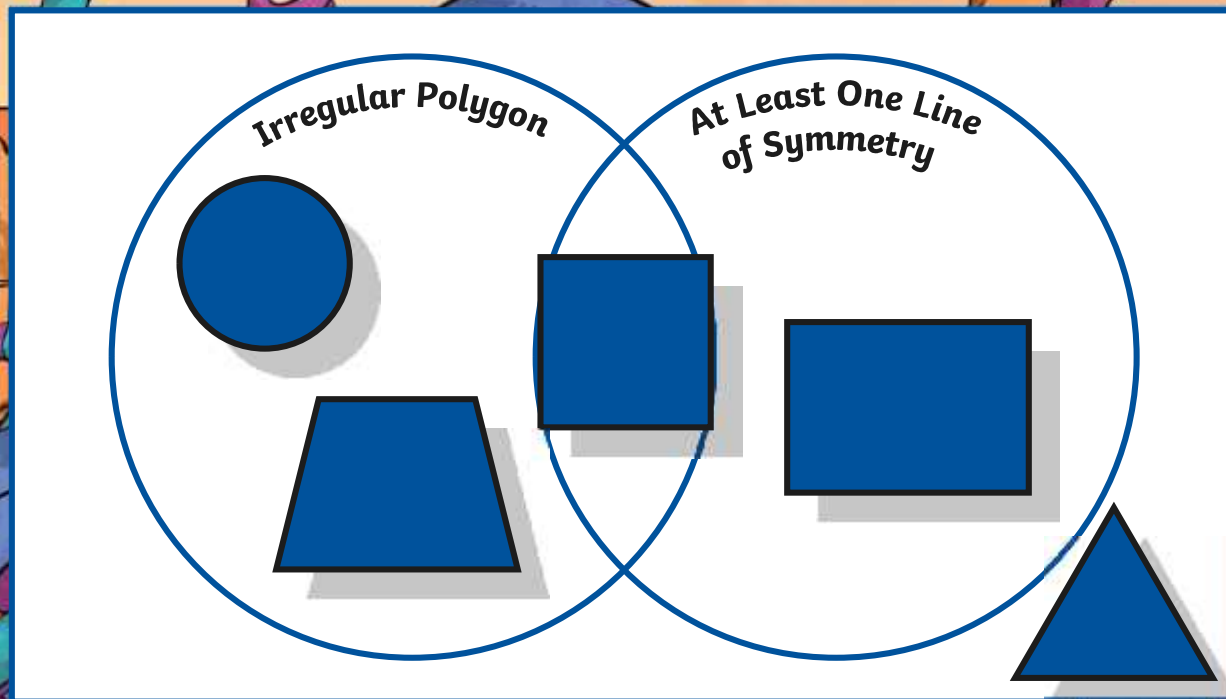
Do you agree with Sam?
Why/Why not?

Discuss with your
learning partner.





Are these 2D shapes correctly placed in the Venn diagram?





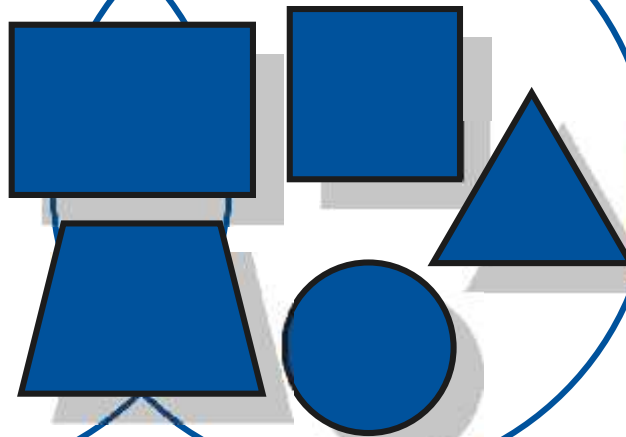
Are these 2D shapes correctly placed in the Venn diagram?

Answers

Irregular Polygon

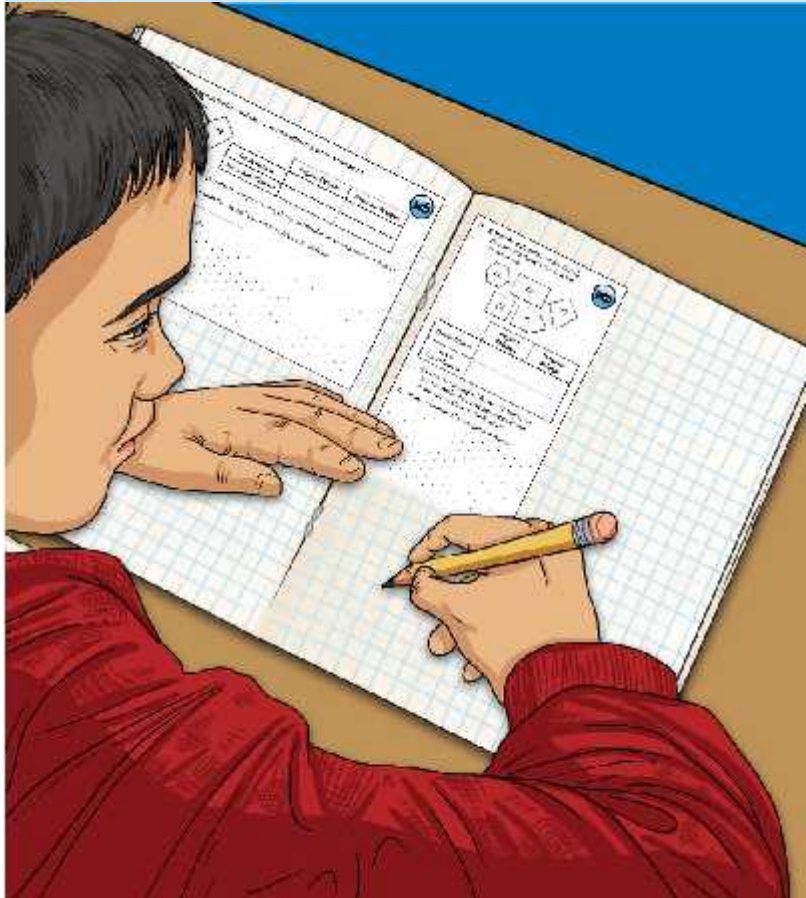
At Least One Line of Symmetry

What 2D shape could go here?



Regular and Irregular Polygons

Dive in by completing your own activity!



1. What is a polygon?

2. What is a regular polygon?

3. What is an irregular polygon?

4. Classify the following polygons as regular or irregular.

Classification	Regular Polygon	Irregular Polygon
Hexagon		
Square		
Pentagon		
Triangle		

5. Draw a regular polygon and an irregular polygon.

6. What is the sum of the interior angles of a polygon?

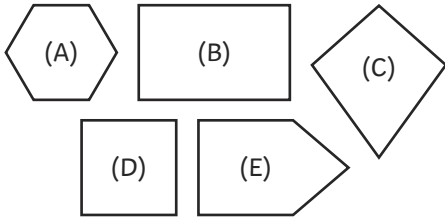
Number of Sides	Sum of Interior Angles
3	
4	
5	
6	
7	
8	
9	
10	

7. What is the sum of the exterior angles of a polygon?

Number of Sides	Sum of Exterior Angles
3	
4	
5	
6	
7	
8	
9	
10	



- 1) a) Sort these 2D shapes in the Carroll diagram. Put the letters A-E in the correct places.



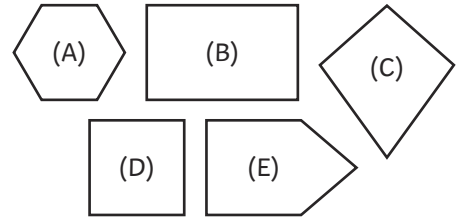
	Regular Polygon	Irregular Polygon
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- b) Write the name of a different 2D shape that is an example of an irregular quadrilateral in the correct place on the diagram.

- 2) Draw an example of an irregular hexagon. Convince your partner that you have drawn an irregular hexagon.



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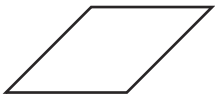
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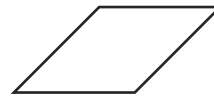
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Explain your answer.

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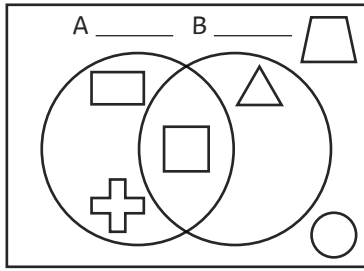
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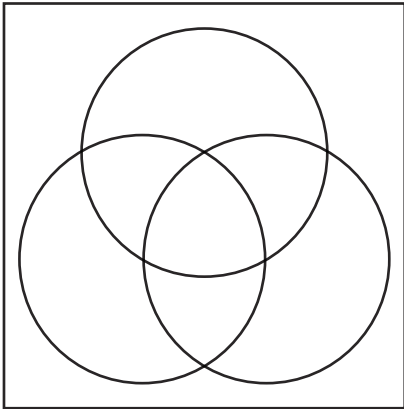


A _____

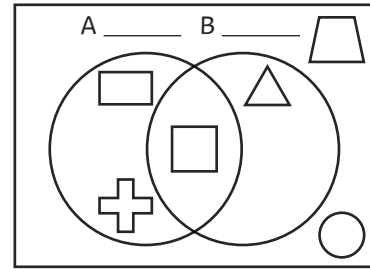
B _____

- b) Draw a different 2D shape to those shown that could go in any two sections of the Venn diagram.

- 2) Create your own Venn diagram with three intersecting circles, as shown, to sort regular and irregular polygons alongside other properties of your choice.



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