

**Skill: I can sort 3 D shapes**

## Big Question

A cylinder has no vertices.



True

A cylinder has no vertices because  
the two edges do not meet.

Can you practice your 3 x table with the Numberock crew?

<https://www.youtube.com/watch?v=70aG99v704k>



## Introduction

**Match the 3D shapes to their names.**



**cone**

**cuboid**

**sphere**

**triangular-based pyramid**

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**cone**

**cuboid**

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## Varied Fluency 1

Sort the shapes below into the table

Pyramids	Cuboids	Cylinders

A.



B.



C.



D.



E.





## Varied Fluency 1

Sort the shapes below into the table

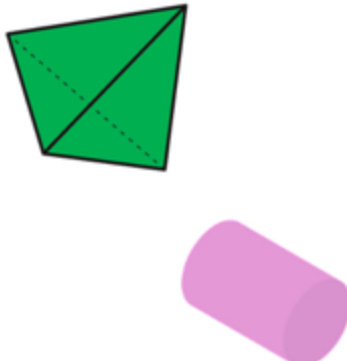
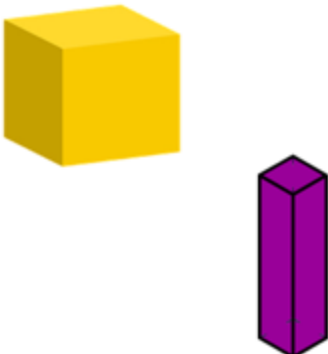
Pyramids	Cuboids	Cylinders
C	A E	B D





## Varied Fluency 2

The shapes below have been sorted.  
Use the word cards to label each column.

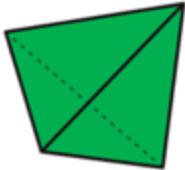



	

**More than 5  
faces**

**Fewer than 5  
faces**

## Varied Fluency 2

The shapes below have been sorted.  
Use the word cards to label each column.

Fewer than 5 faces	More than 5 faces
 	 

More than 5  
faces

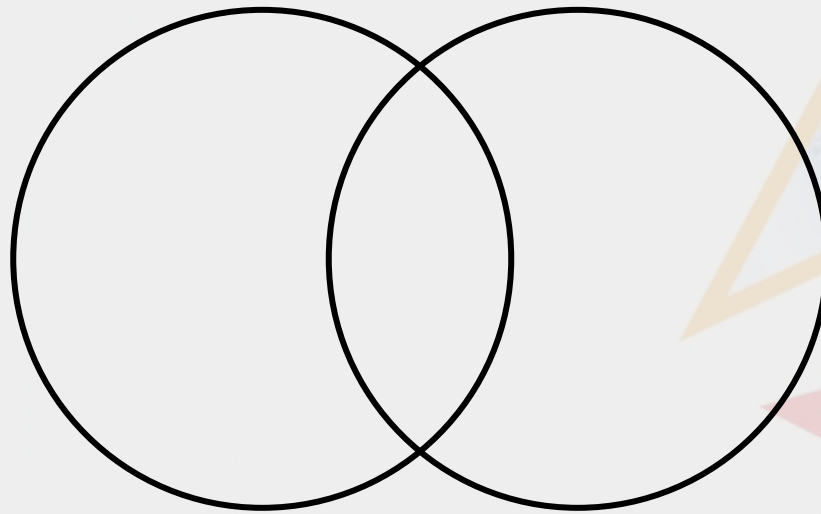
Fewer than 5  
faces

### Varied Fluency 3

Sort these 3D shapes into the Venn diagram.

Odd number of  
faces/surfaces

Even number  
of edges



A.



B.



C.



D.



E.



F.

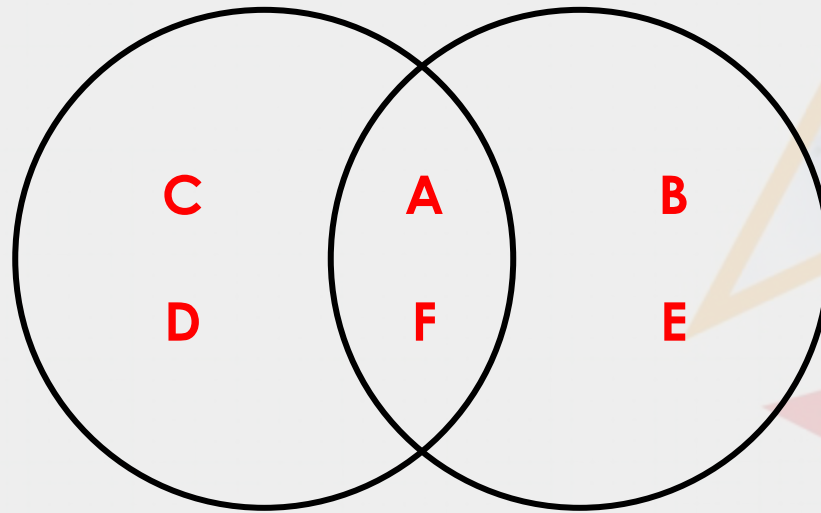


## Varied Fluency 3

Sort these 3D shapes into the Venn diagram.

Odd number of  
faces/surfaces

Even number  
of edges



A.



B.



C.



D.



E.



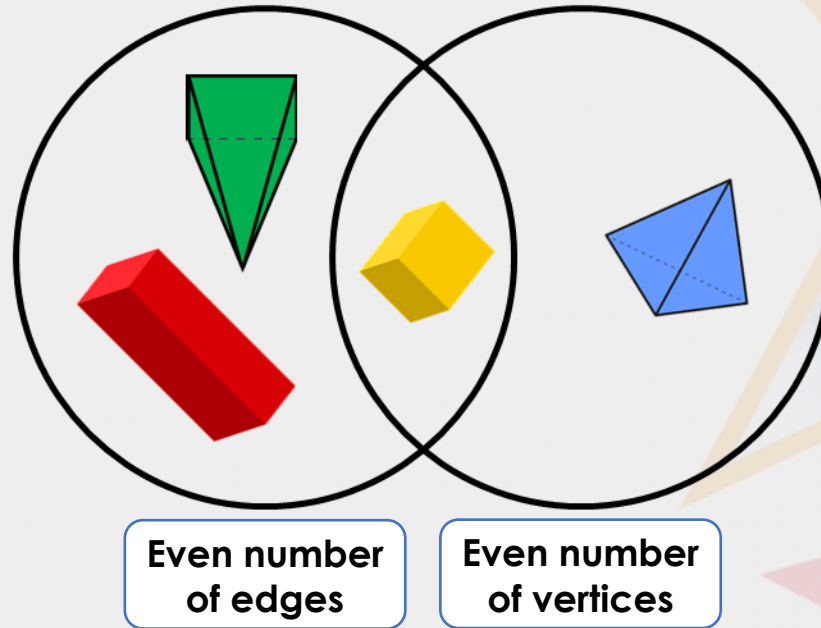
F.





## Reasoning 1

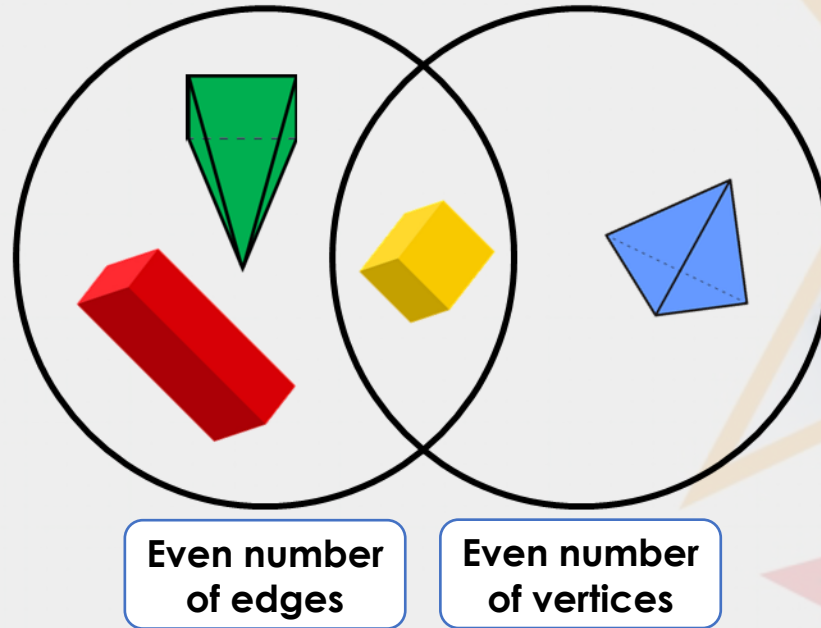
Chico has sorted these 3D shapes.



Is he correct? Explain why.

## Reasoning 1

Chico has sorted these 3D shapes.

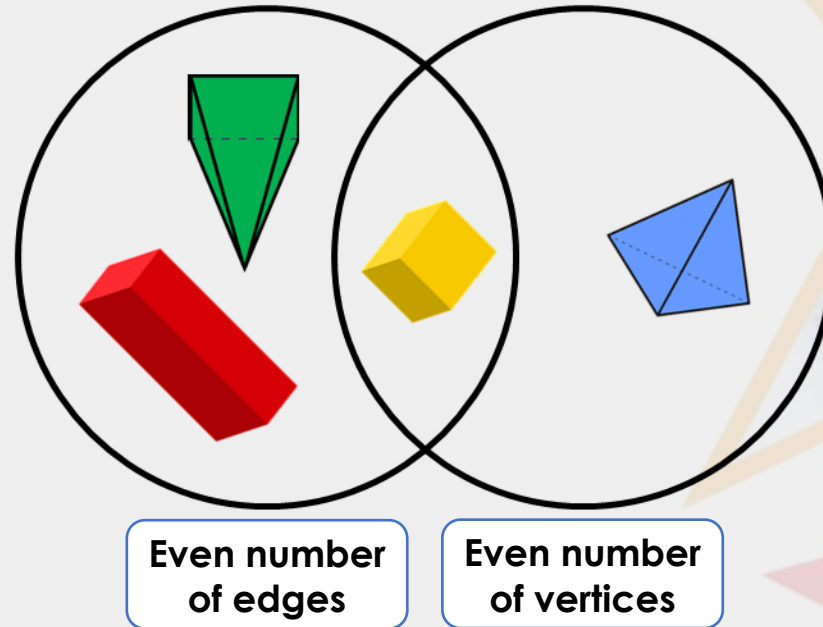


Is he correct? Explain why.

Chico is incorrect because...

## Reasoning 1

Chico has sorted these 3D shapes.



Is he correct? Explain why.

**Chico is incorrect because the cuboid and triangular-based pyramid should be in the intersection as they both have an even number of edges and vertices.**



## Problem Solving 1

**How could you sort these 3D shapes into 2 groups?**



**How would you label your groups?**

## Problem Solving 1

**How could you sort these 3D shapes into 2 groups?**

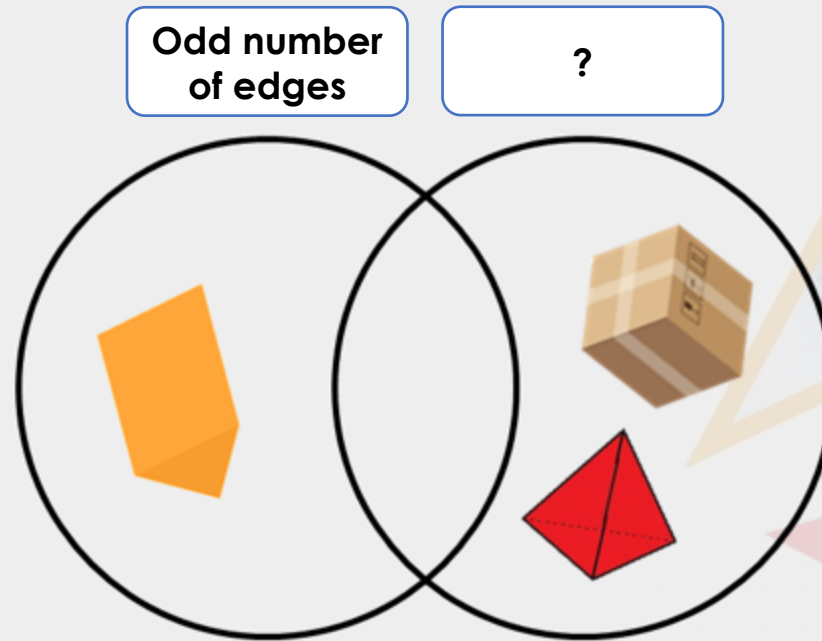


**How would you label your groups?**

**Various answers, for example: triangular face/no triangular face;  
odd/even number of faces; odd/even number of vertices**

## Problem Solving 2

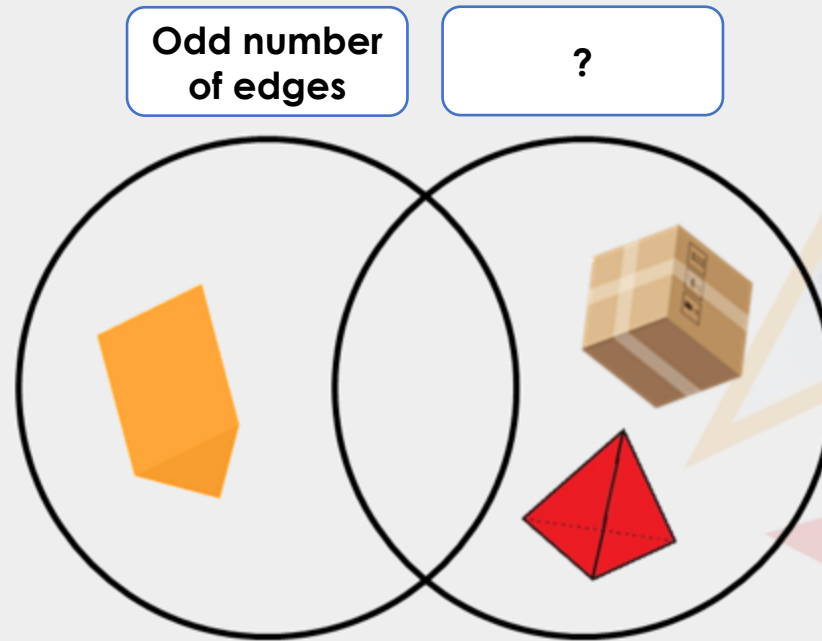
**Celia is sorting some 3D shapes.**



**What is Celia's missing label?**

## Problem Solving 2

Celia is sorting some 3D shapes.



What is Celia's missing label?  
**Even number of faces**

## Independent task

### Sort 3D shapes

- 1 Spot the odd one out in each group and complete the sentences.

a)



The odd one out is a \_\_\_\_\_.

b)



The odd one out is a \_\_\_\_\_.

- 2 Which shape could go in the group?

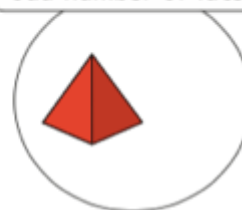
has a curved surface



- 3 Which shape could go in both groups?



odd number of faces



even number of vertices



- 4 How have the shapes been grouped?

