



#LIFEworkbalance

We have started a #LIFEworkbalance campaign and we need your help to complete our LIFE/work balance survey.

We hope to publish the results soon, so please give 15 minutes of your time to help us get a true picture of school life.

Want to be a part of this campaign? Take the [survey](#) on our website and share it with your colleagues!

Year 5 – Summer Block 2 – Properties of Shape – Regular and Irregular Polygons

About This Resource:

This PowerPoint has been designed to support your teaching of this small step. It includes a starter activity and an example of each question from the Varied Fluency and Reasoning and Problem Solving resources also provided in this pack. You can choose to work through all examples provided or a selection of them depending on the needs of your class.

National Curriculum Objectives:

Mathematics Year 5: (5G2b) [Distinguish between regular and irregular polygons based on reasoning about equal sides and angles](#)

More [Year 5 Properties of Shapes](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

Step 8: Regular and Irregular Polygons

Introduction

**Discuss these statements about polygons.
Are they true or false?**

True	False

They have 5 or more sides **They are made up of straight lines**

They are 2D shapes

They are a closed shape (no gaps)

They are 3D shapes

They include open shapes

They can have curved sides

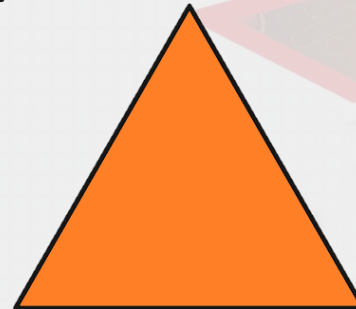
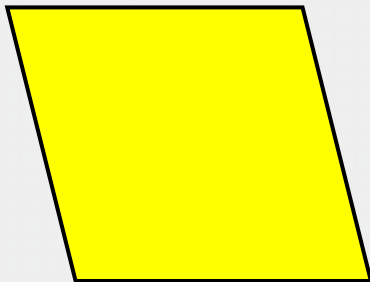
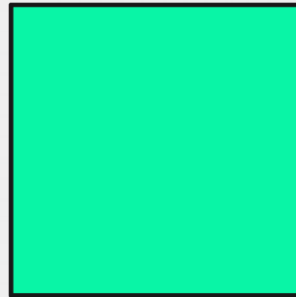
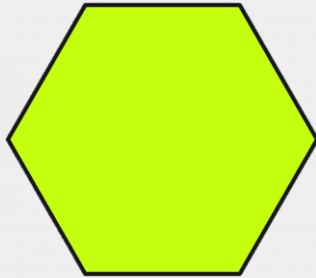
Introduction

**Discuss these statements about polygons.
Are they true or false?**

True	False
They are a closed shape (no gaps) They are made up of straight lines They are 2D shapes	They are 3D shapes They include open shapes They can have curved sides They have 5 or more sides

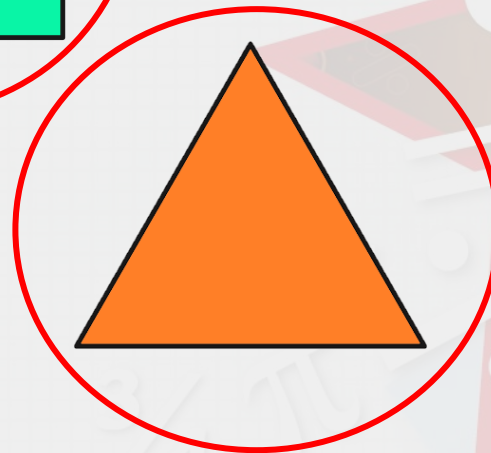
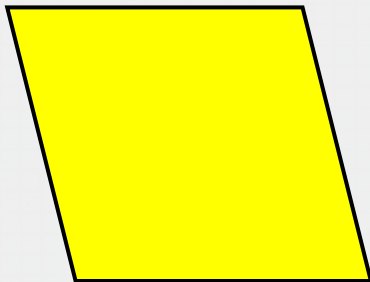
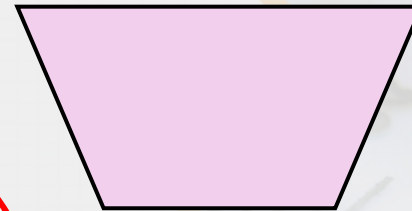
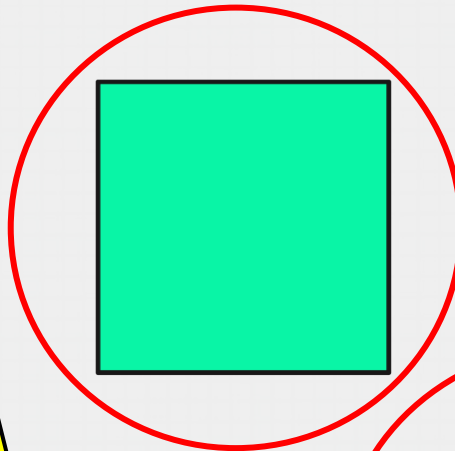
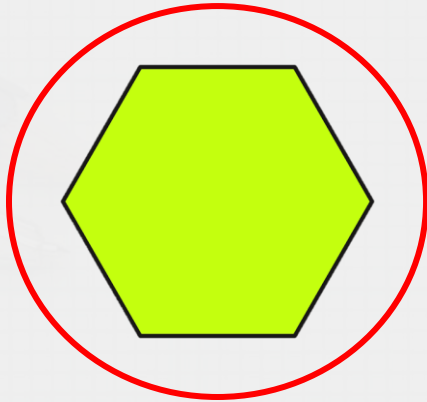
Varied Fluency 1

Circle the regular polygons.



Varied Fluency 1

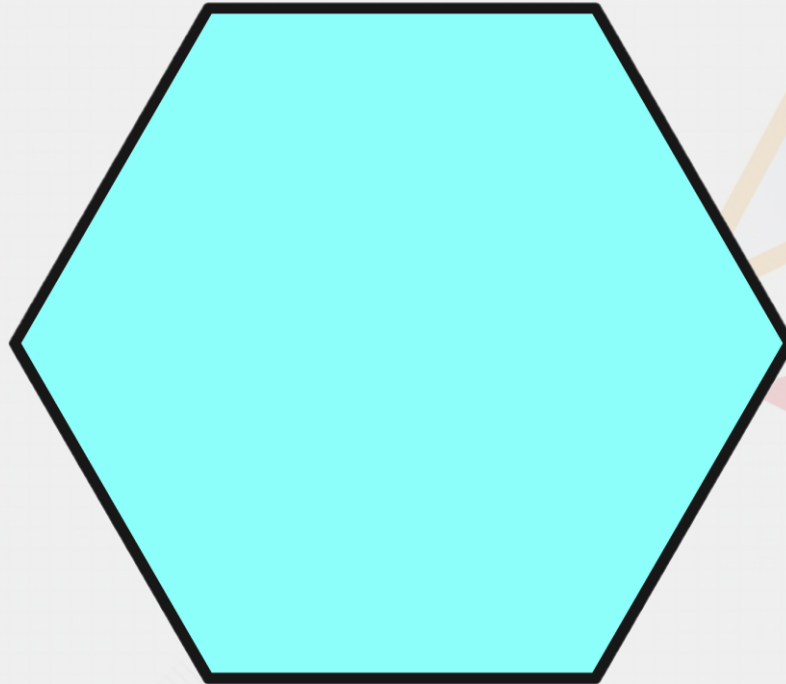
Circle the regular polygons.



Varied Fluency 2

Identify the name of this shape.

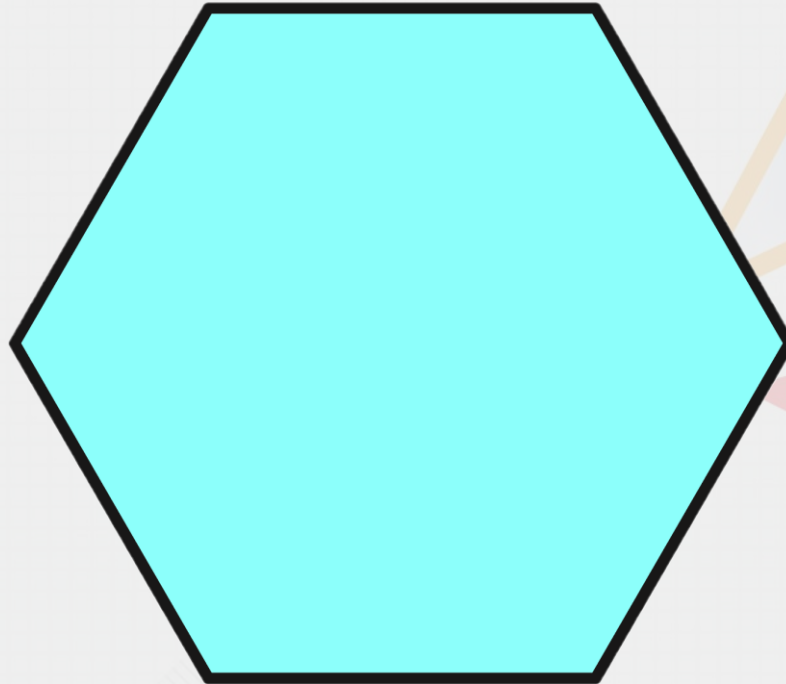
Use a ruler and a protractor to decide whether it is a regular or irregular polygon.



Varied Fluency 2

Identify the name of this shape.

Use a ruler and a protractor to decide whether it is a regular or irregular polygon.

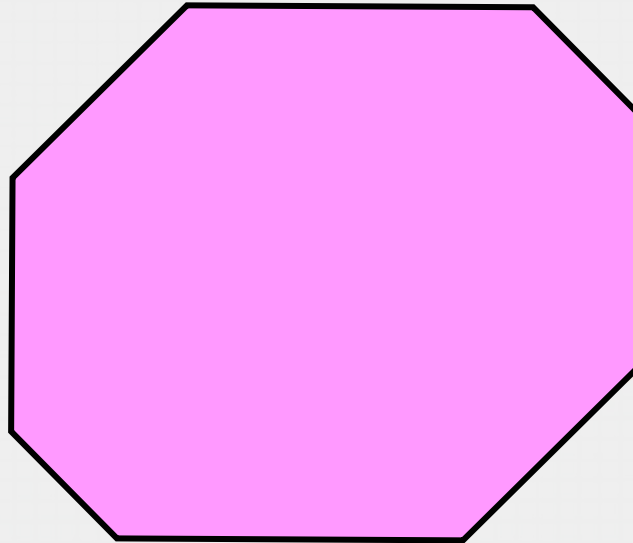


This is a hexagon. It is a regular polygon.

Varied Fluency 3

This is a regular octagon.

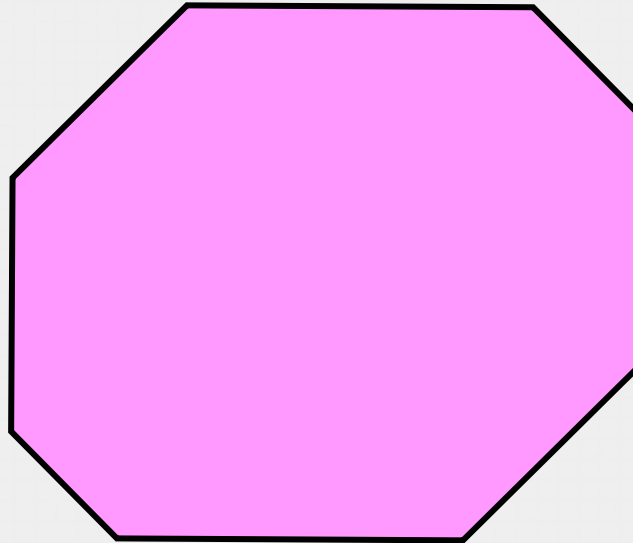
True or false?



Varied Fluency 3

This is a regular octagon.

True or false?



False.

This is an irregular octagon as there are angles and sides of different lengths.

Varied Fluency 4

Draw a regular pentagon.

Measure the length of each side and the size of each angle to make sure that they are equal.

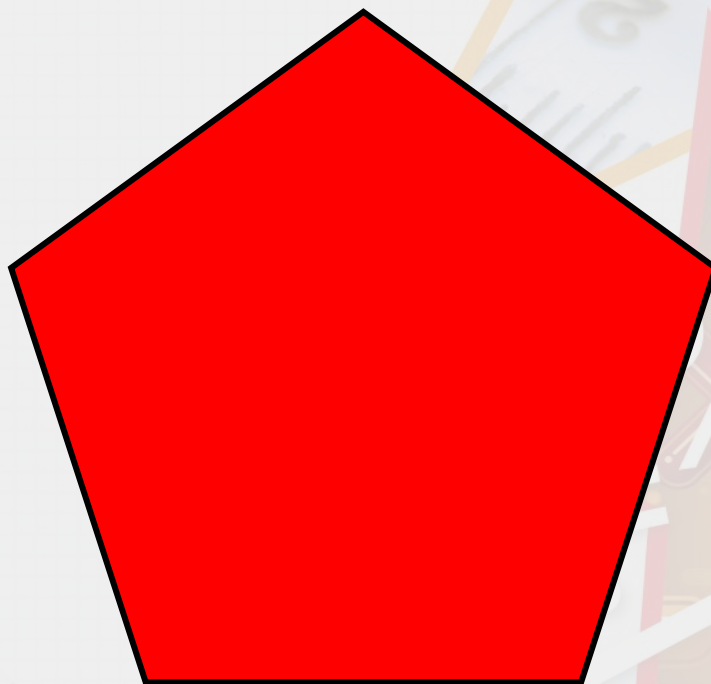
Varied Fluency 4

Draw a regular pentagon.

Measure the length of each side and the size of each angle to make sure that they are equal.

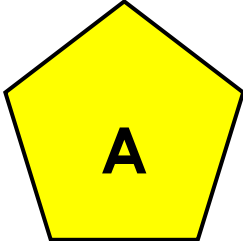
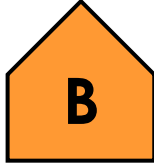
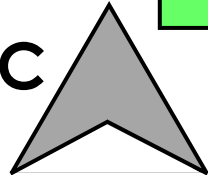
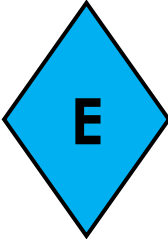
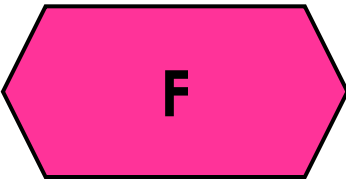
You should have drawn a 5-sided shape.

The sides should all be the same length and all angles should measure 108° .



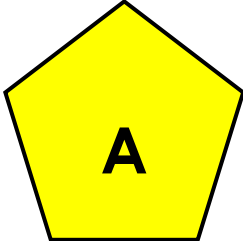
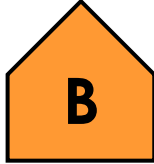
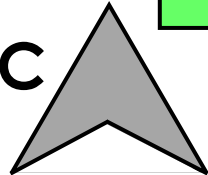
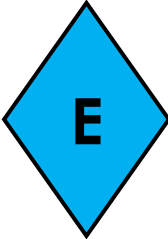
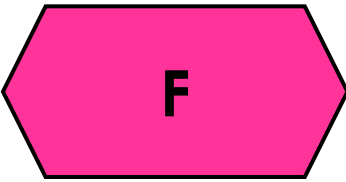
Reasoning 1

Has Toni sorted these shapes correctly? Explain your answer.

	Regular Polygon	Irregular Polygon
Has 5 sides	 A	 B
Not 5 sides	 C  D  E	 F

Reasoning 1

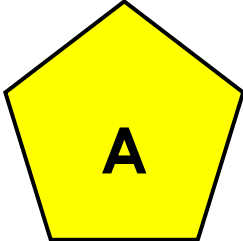
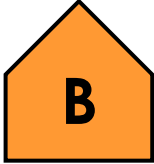
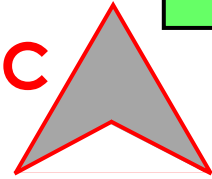
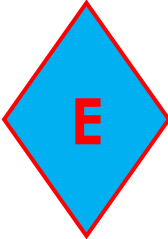
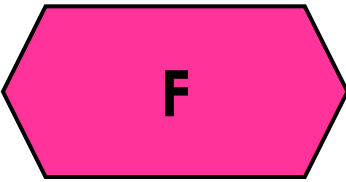
Has Toni sorted these shapes correctly? Explain your answer.

	Regular Polygon	Irregular Polygon
Has 5 sides	 A	 B
Not 5 sides	 C  D  E	 F

Toni has not sorted the polygons correctly because...

Reasoning 1

Has Toni sorted these shapes correctly? Explain your answer.

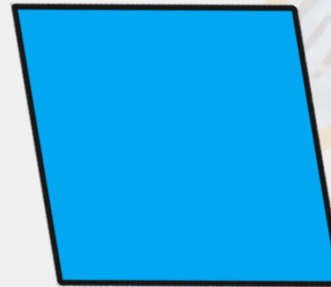
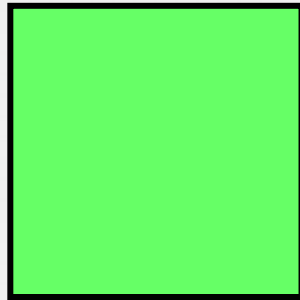
	Regular Polygon	Irregular Polygon
Has 5 sides	 A	 B
Not 5 sides	 C  D  E	 F

Toni has not sorted the polygons correctly because C and E are both irregular polygons as they have sides and angles of different sizes.

Reasoning 2

Jade says:

A rhombus and a square are both regular polygons because they both have sides of equal length.

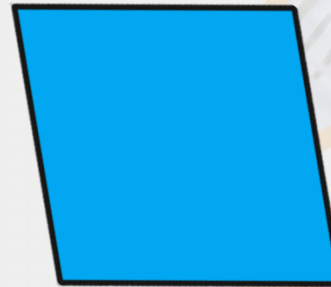
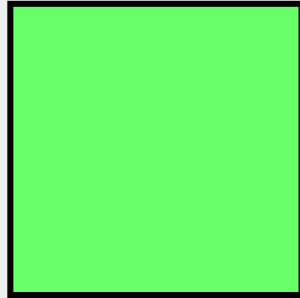


Is Jade correct? Explain your answer.

Reasoning 2

Jade says:

A rhombus and a square are both regular polygons because they both have sides of equal length.



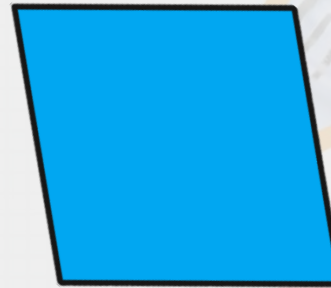
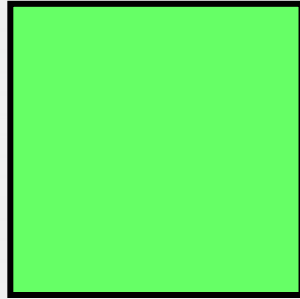
Is Jade correct? Explain your answer.

Jade is incorrect...

Reasoning 2

Jade says:

A rhombus and a square are both regular polygons because they both have sides of equal length.

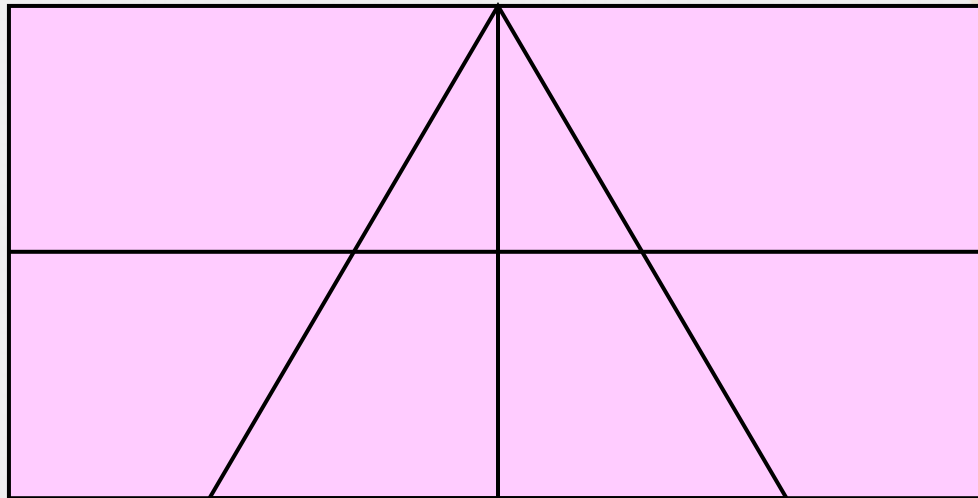


Is Jade correct? Explain your answer.

Jade is incorrect. A square is a regular polygon as it has sides of equal length and each angle measures 90° . However, a rhombus may have 4 sides of equal length, but it does not have 4 angles of equal size.

Problem Solving 1

How many regular polygons can you see in this shape?



Problem Solving 1

How many regular polygons can you see in this shape?

3 regular polygons (2 regular squares and 1 regular triangle).

