

Warm-Up Challenge

Flashback 4

1) Change $\frac{7}{4}$ to a mixed number.

2) What is 47×32 ?

3) Fill in the missing number $36 \div \text{----} = 4$

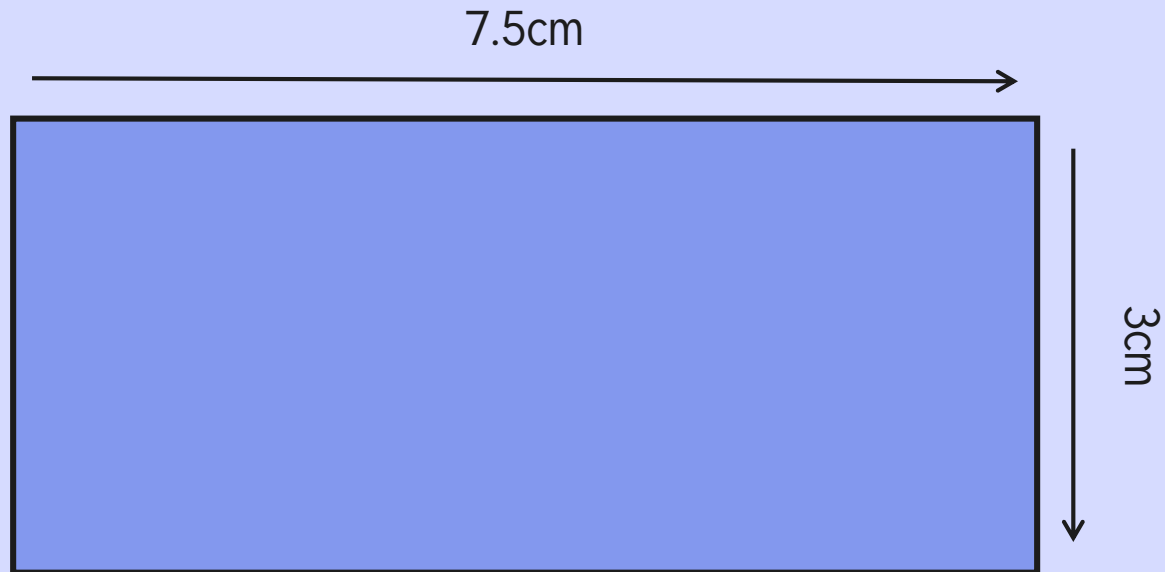
4) What is one hundred more than 28,409?



Perimeter



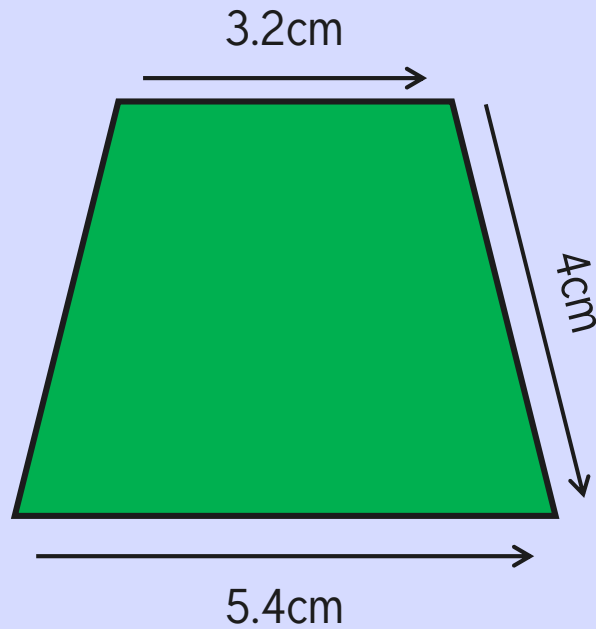
Work out the perimeter of this polygon.



Perimeter



Work out the perimeter of this polygon.



Regular Polygons Vs Irregular Polygons

So, what is a '**Polygon**'?

A polygon is a shape with straight sides. If all of the sides and internal angles are the same size, the shape is **regular**. If they are not the same size, it is **irregular**.

Regular Polygons Vs Irregular Polygons

So, what is a '**Polygon**'?



3 equal sides

Regular Triangle



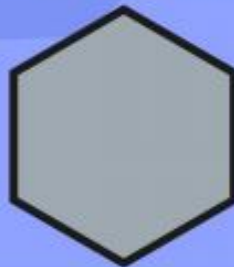
4 equal sides

Regular Quadrilateral



5 equal sides

Regular Pentagon



6 equal sides

Regular Hexagon



7 equal sides

Regular Heptagon

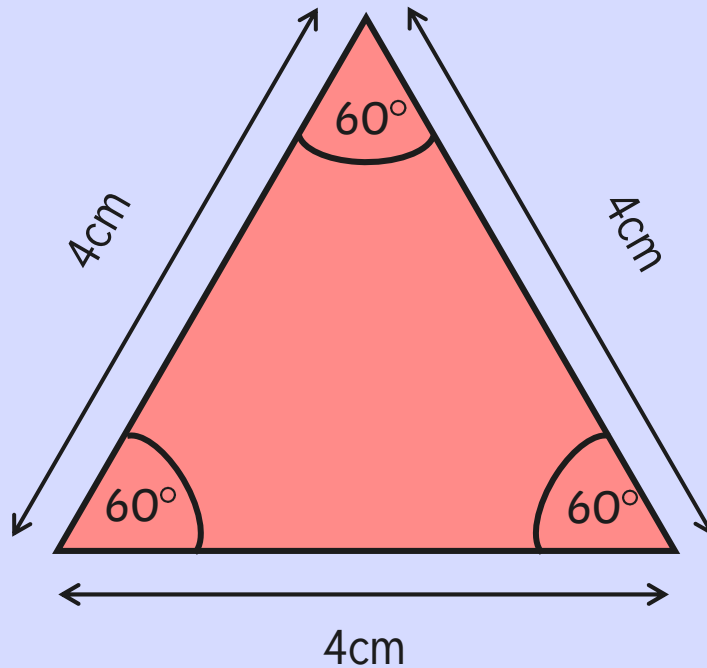


8 equal sides

Regular Octagon

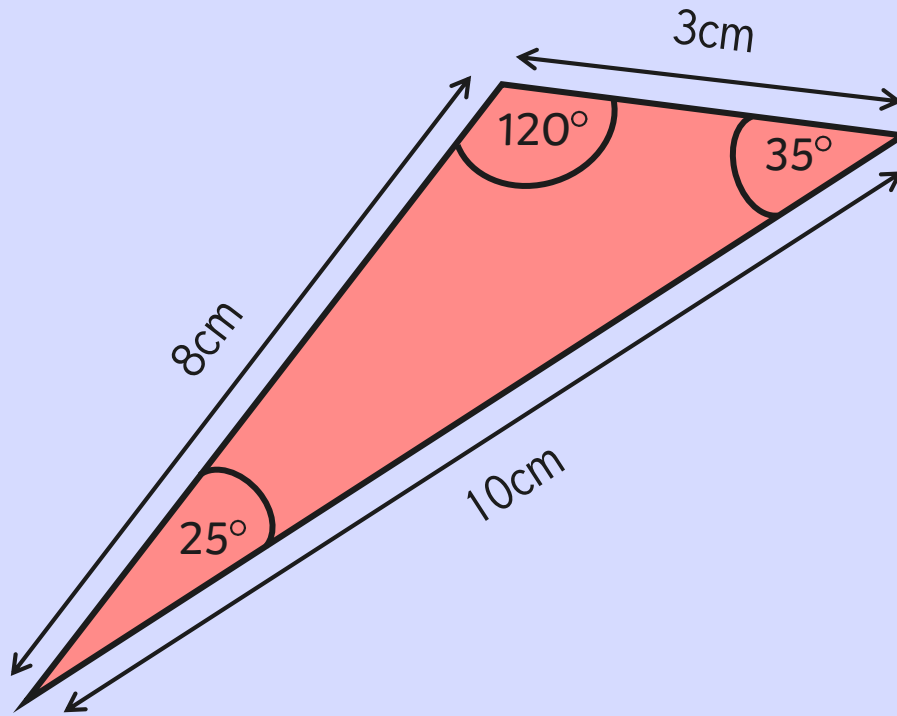
Regular Polygons Vs Irregular Polygons

A **regular** polygon is a 2D shape where all the **angles** are **equal** and the **lengths** of the sides are **equal**.



Regular Polygons Vs Irregular Polygons

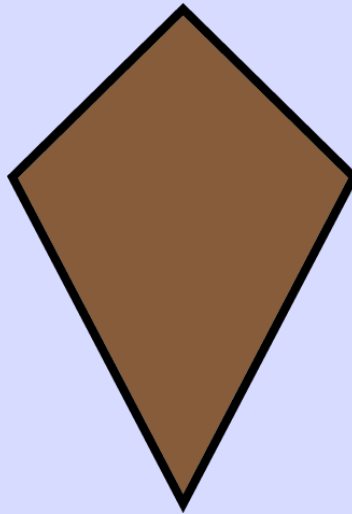
An **irregular** polygon is still a 2D shape but its sides and angles are not equal



Quick Quiz



Is this polygon **regular** or **irregular**? How do you know?

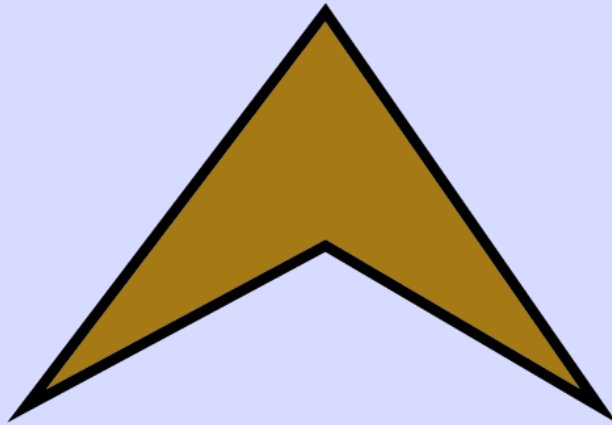


Irregular

Quick Quiz



Is this polygon **regular** or **irregular**? How do you know?

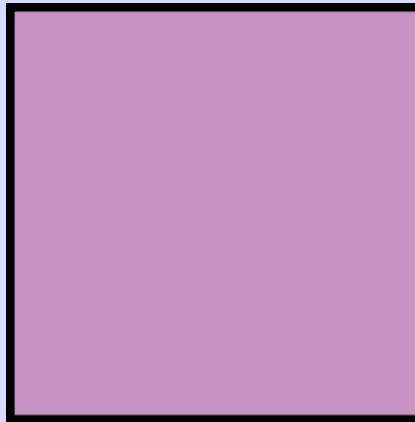


Irregular

Quick Quiz



Is this polygon **regular** or **irregular**? How do you know?



Regular

Quick Quiz



Is this polygon **regular** or **irregular**? How do you know?

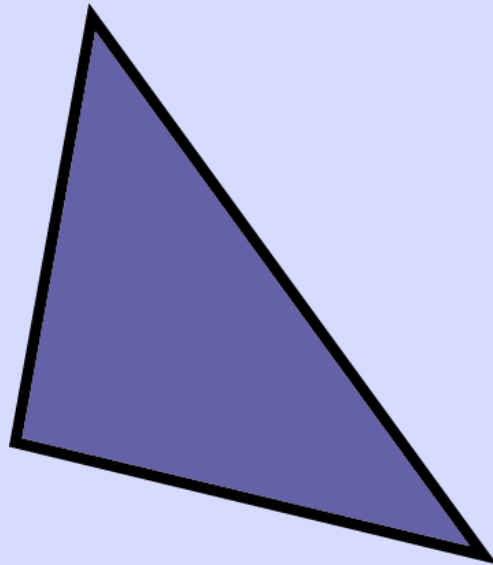


Irregular

Quick Quiz



Is this polygon **regular** or **irregular**? How do you know?

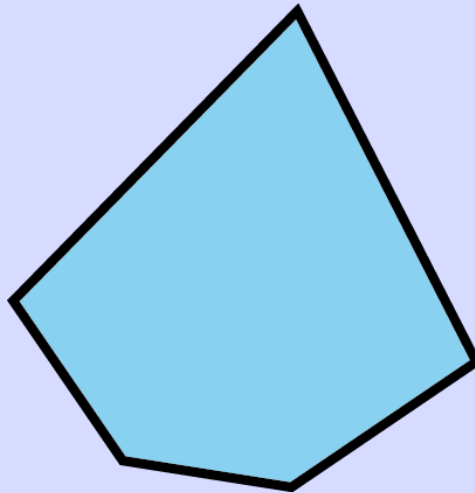


Irregular

Quick Quiz



Is this polygon **regular** or **irregular**? How do you know?

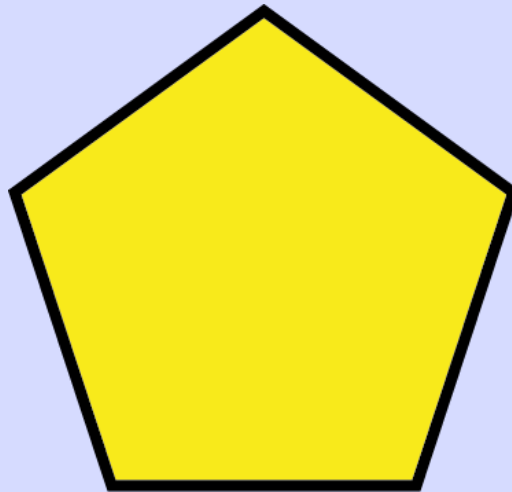


Irregular

Quick Quiz



Is this polygon **regular** or **irregular**? How do you know?

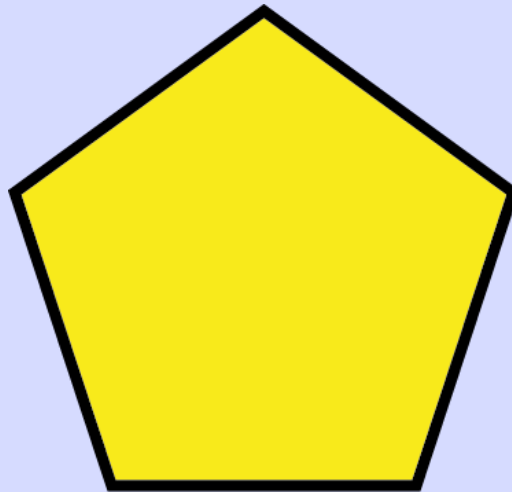


Regular

Quick Quiz



Yes, this shape is regular. But what **type** of polygon is it?

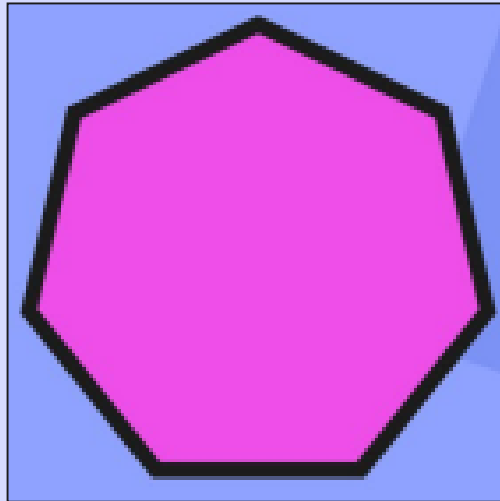


Regular Pentagon

Quick Quiz



What type of polygon is this shape?

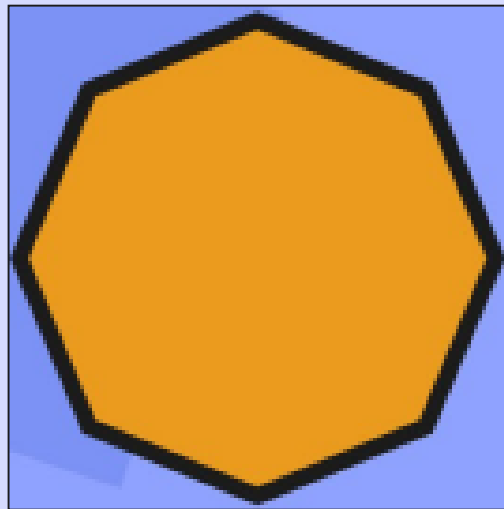


Regular Heptagon

Quick Quiz



What type of polygon is this shape?

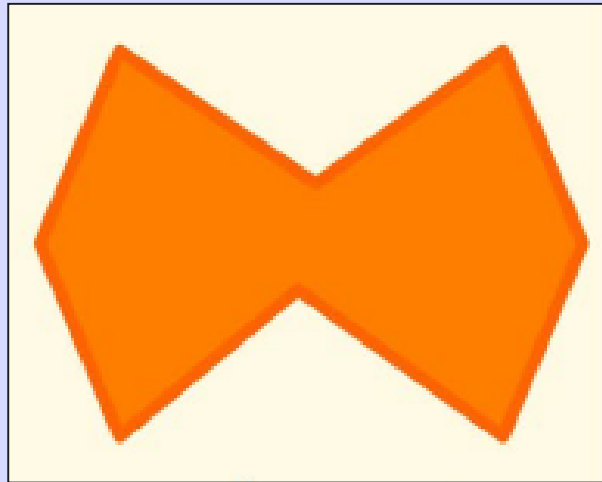


Regular Octagon

Quick Quiz



What type of polygon is this shape?

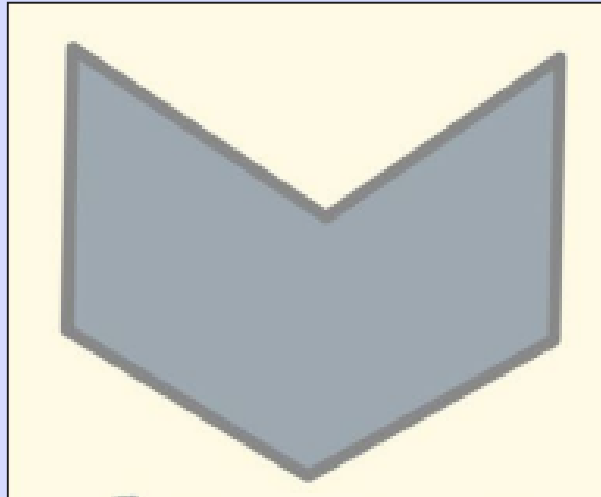


Irregular Octagon

Quick Quiz



What type of polygon is this shape?



Irregular Hexagon

Classifying Polygons

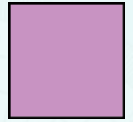
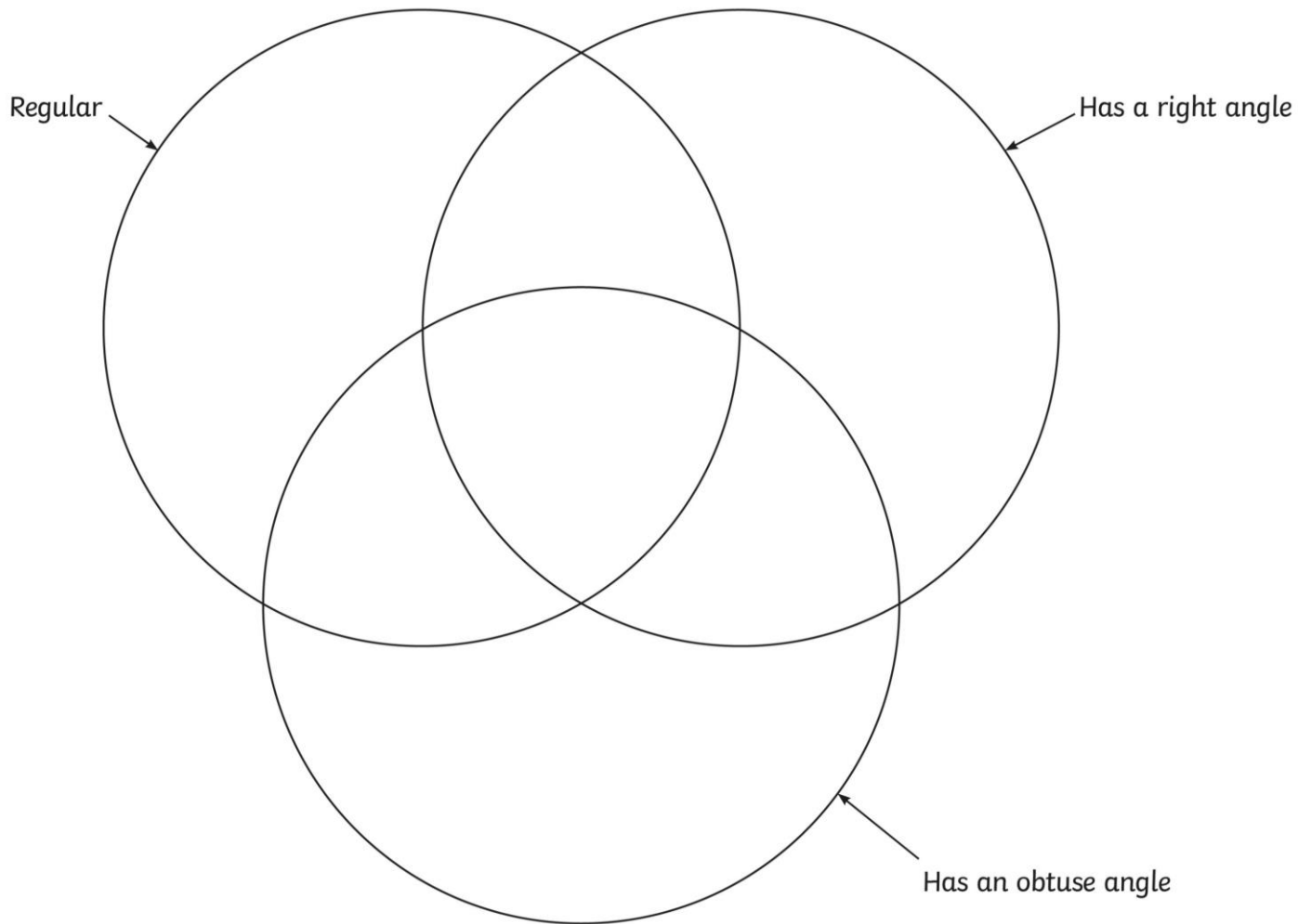
Now let's think about classifying polygons based on the properties of their lengths and angles using a Carroll diagram.

	Regular	Irregular
Right Angle		
No Right Angle		



Classifying Polygons

Now try to classify them using this diagram...



Classifying Regular and Irregular Polygons

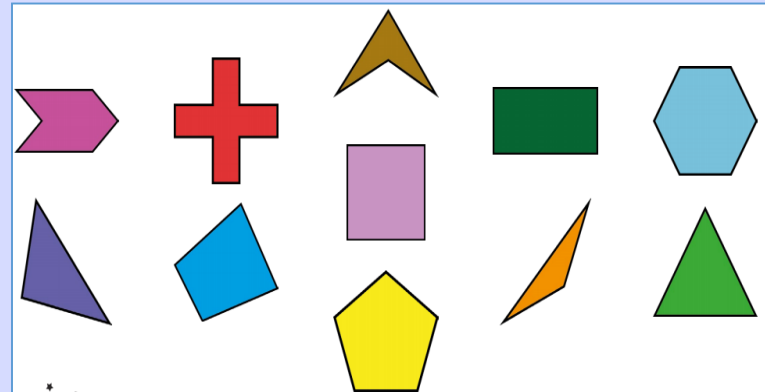


Independent Activity 1:

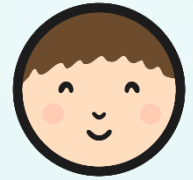
Now it's time to show the true level of your knowledge and understanding... Turn to page 15 in your maths work booklet and carefully cut out one set of the polygons. Then, sort them using the Carroll Diagram on page 13 in your maths work booklet. Once you are happy with their locations, carefully glue them on to the page.

★★		Regular	Irregular
Right Angle			
No Right Angle			

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Mathematics | Year 5 | Measurement and Geometry | Geometric Reasoning | Reasoning about Regular and Irregular Polygons | Lesson 1 of 2: Shape Reasoning



Classifying Regular and Irregular Polygons



Independent Activity 2:

Carefully cut out the remaining set of polygons on page 15 of your maths work booklet and then classify (sort) them using the diagram on page 14. Once you are happy with their locations, carefully glue them on to the page.

