Maths Week 4

Starters – try doing one every day:

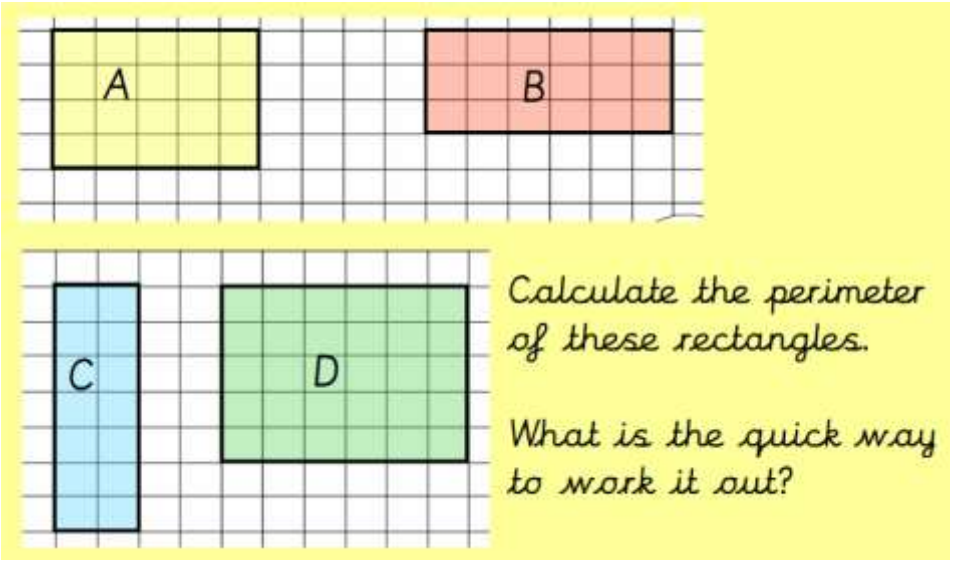
These starters are objectives that you have learnt in Year 5.

- Revise times tables and related division facts.
- Continue the sequence: 12.44, 12.54, 12.64, _____, _____, _____, _____
- Convert the following times to a 12hour clock:
  16:45, 01:20, 11:34, 21:15
- Multiply 44.5 by 10, 100, 1000 and 10,000.
- Divide 85364.2 by 10, 100, 1000 and 10,000.

Week 1 of 'Shape' (perimeter and polygons)

Task 1: L.O. To calculate perimeters of rectangles and rectilinear shapes.

Recap from last week

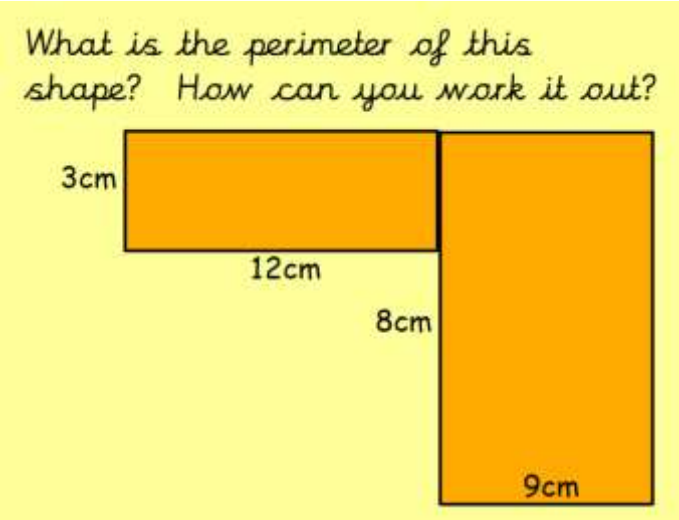


1square=1cm

Knowledge: Add up the length of each side of the rectangle. Remember to add the unit of measurement e.g. m, cm, mm.

A=18cm B= 18cm C=18cm D=22cm

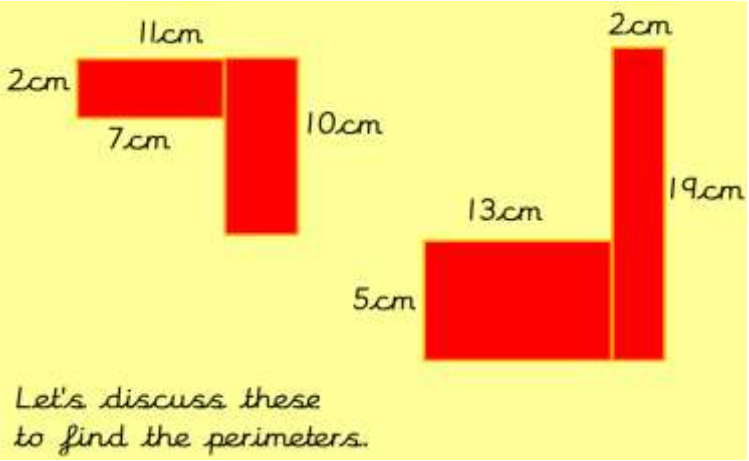
Task 1



Knowledge: First, add in all the missing side lengths. Then carefully add up the total length of ALL sides.

12+9=top

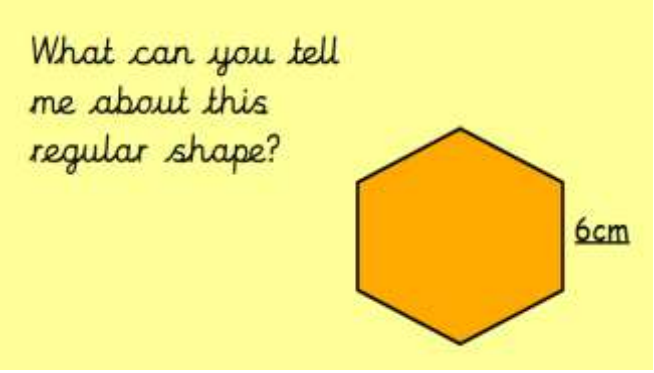
3+8= right hand side



What do you notice?

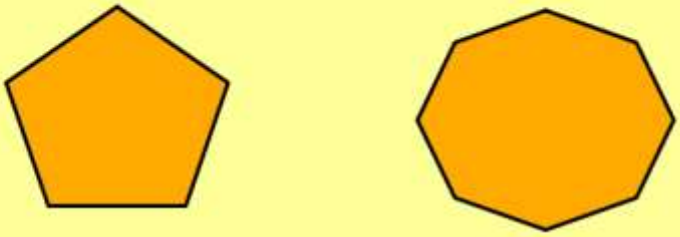
Is there an easier way to work out the perimeter of rectilinear shapes?

Task 2



It is a regular shape so all the sides are equal. P= 6x6 or 6^2.

How would you work out the perimeter of other regular polygons?

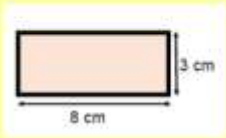


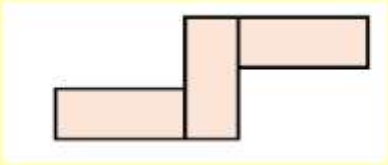
E4E: optional

Using 3 rectangles investigate the perimeters of rectilinear shapes that you can make. Cut out 3 rectangles of squared paper (3 squares x 8 squares)
What is the largest perimeter you can make?

The smallest?

Can you make any different shapes with the same perimeter?





Squared paper below answers.

Task 3 - L.O. To identify regular and irregular polygons.

Knowledge

What is a polygon?

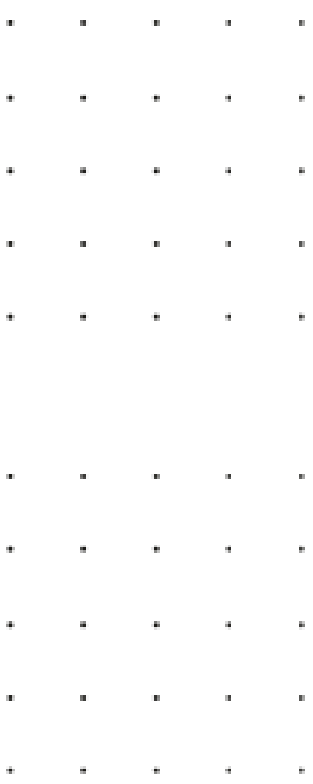
It is a 2D shape (a flat shape) with 3 or more sides, and it only has straight sides.

Is this shape a polygon?
Does it fit our criteria?
Explain using full sentences.

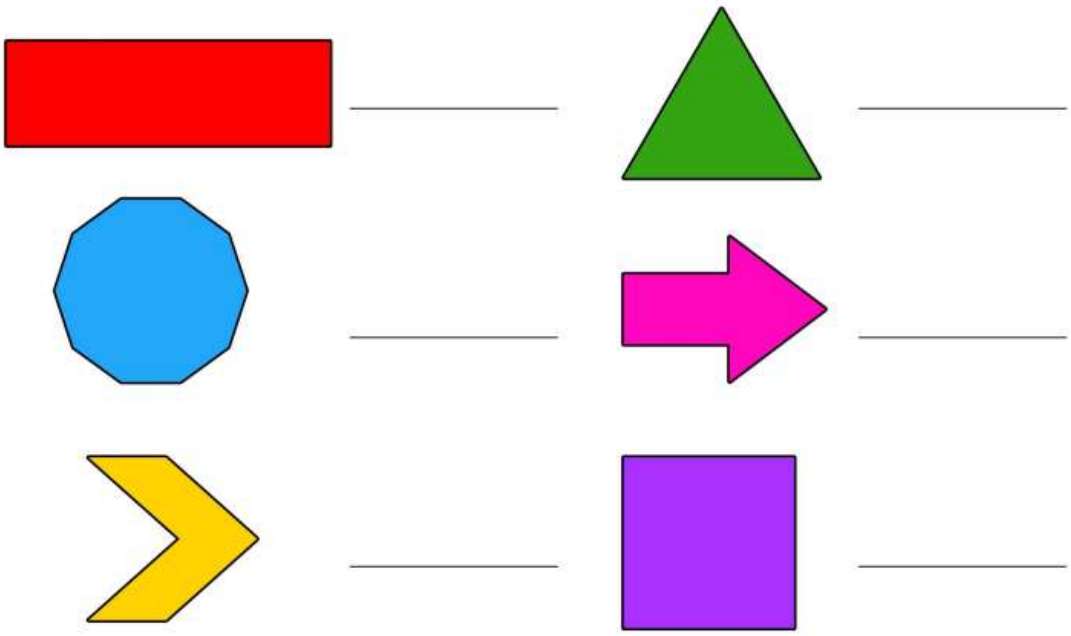
Is this a regular or irregular polygon?
How do you know?

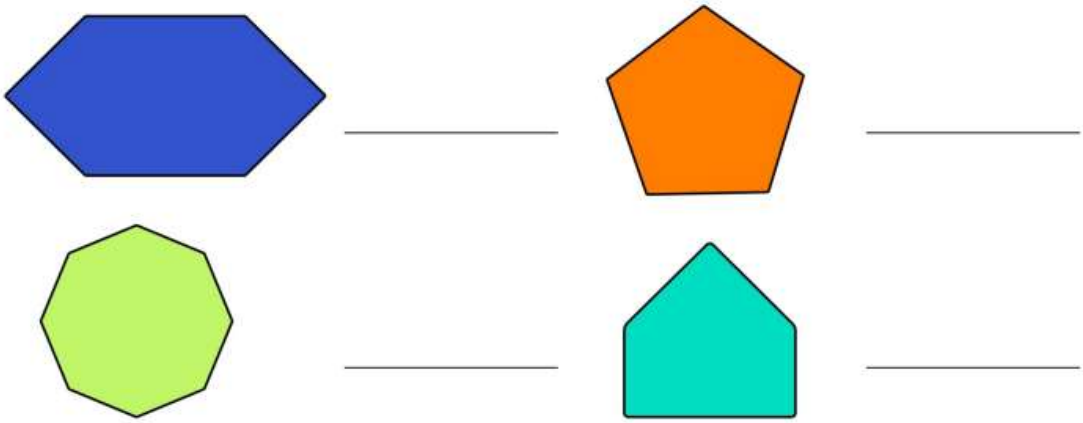
In a regular polygon, all the sides are the same length.
In an irregular polygon, the sides are not the same lengths.

Draw a regular polygon and an irregular polygon on the grids below.



Regular or irregular





E4E:

- Adam says,

> All the angles are equal in a regular polygon so that must mean a rectangle is a regular polygon.

Is Adam correct? Why?

Task 4 - L.O. To identify the properties of 2D shapes.

Knowledge

Always, sometimes, never.
The number of equal angles is the same number of equal sides in a regular polygon.

Recap names:

5 sides= pentagon

6 sides= hexagon

7 sides=heptagon

8 sides=octagon

9 sides= nonagon

10 sides= decagon

11 sides= hendecagon

12 sides= dodecagon

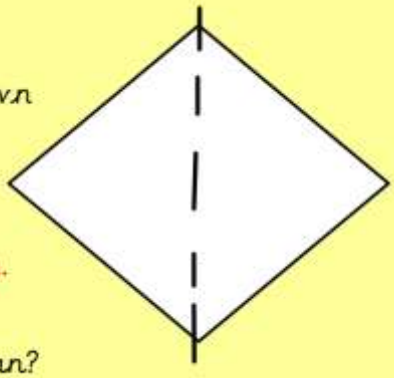
Shape	Number of equal sides.	Number of angles the same.

Task 5 - L.O. To be able to describe the properties of regular polygons.

Knowledge

A regular polygon has sides that are all the same length and all the angles are equal too.

What do we call this line down the middle?



Line of symmetry.

What does it mean?

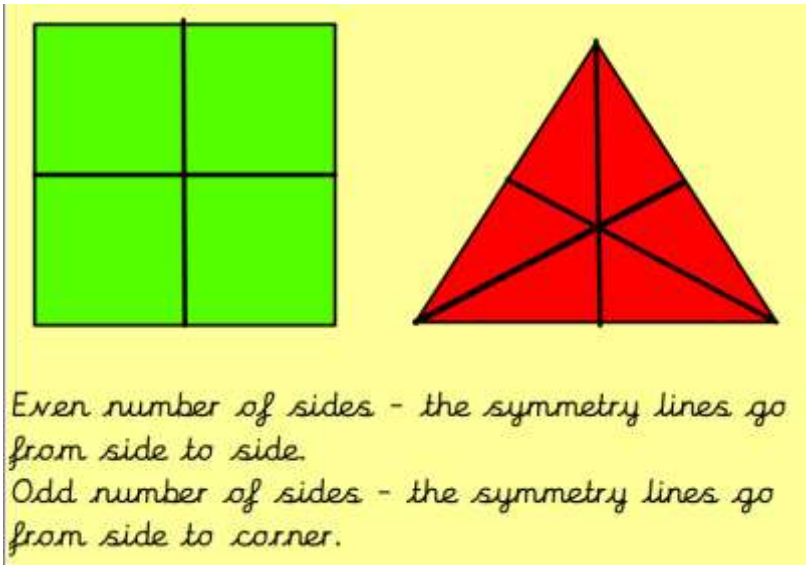
True or False?

Do you think there is a link between the number of sides a shape has and the number of lines of symmetry a shape has?

So, if a shape has 7 sides, how many lines of symmetry do you think it will have?

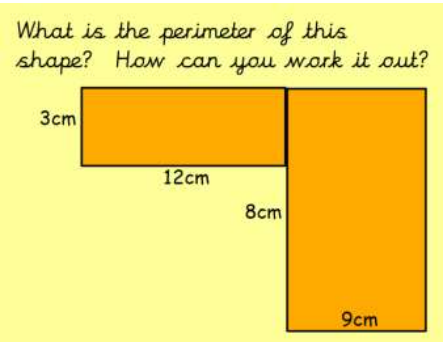
Shape	Number of equal sides	Number of equal angles	Number of lines of symmetry.
Equilateral triangle	3	3	3
square	4	4	
Pentagon			

Top Tip

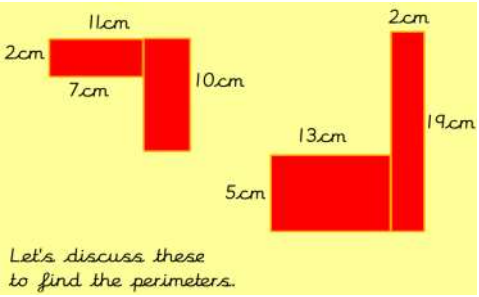


Answers:

Task 1



P= 64cm



P= 42cm P=68cm

Task 2

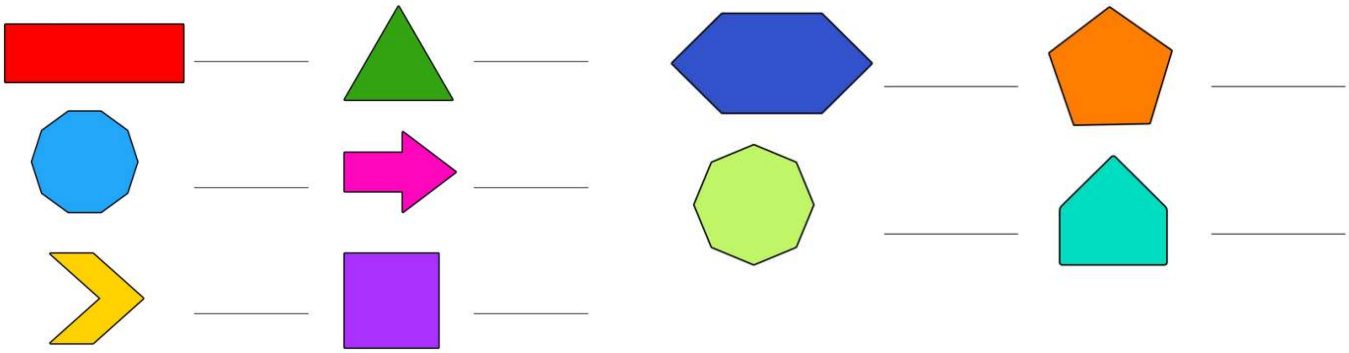
What can you tell me about this regular shape?

$6^2 = 36cm$

How would you work out the perimeter of other regular polygons?

To work out the perimeter of other regular polygons, measure one side and multiply by the number of sides.

Task 3



Regular:

Triangle, decagon, square, pentagon, octagon.

Irregular:

Pink arrow, yellow arrow, hexagon (dark blue), pentagon (turquoise), rectangle.

- Adam says,

All the angles are equal in a regular polygon so that must mean a rectangle is a regular polygon.

Is Adam correct? Why?

Adam is incorrect because in a regular polygon, all sides are the same length.

Task 4

Always, sometimes, never.
The number of equal angles is the same number of equal sides in a regular polygon.

Always: the number of equal angles is the same as the number of equal sides in a regular polygon.

Task 5

Shape	Number of equal sides	Number of equal angles	Number of lines of symmetry.
Equilateral triangle	3	3	3
square	4	4	4
Pentagon	5	5	5
Hexagon	6	6	6
Octagon	8	8	8
Nonagon	9	9	9