

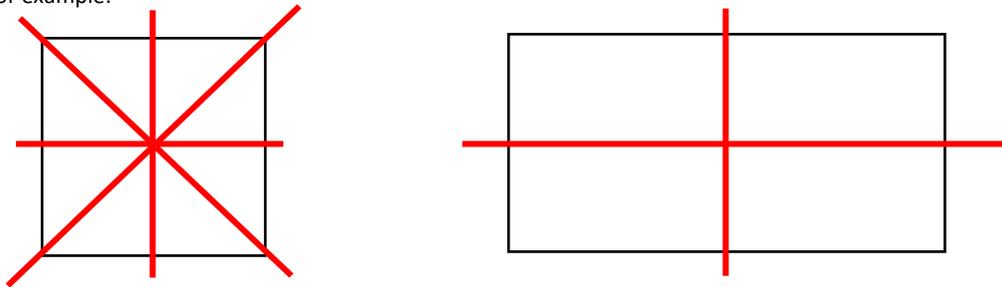
Maths- 29.6.20

Here are your maths tasks for this week- please use the book provided to complete the tasks ☺ We normally do maths Monday-Thursday, with Friday being our day for Athletics and Times table rockstars to consolidate other areas of learning. Please see the Times table sheet for suggested activities. I've attached an arithmetic paper for Friday to complete this week too ☺

Monday

This week, we will be looking at lines of symmetry within shapes and drawing symmetrical figures. When we think about symmetry- we mean that the image/shape needs to be exactly the same on both sides. Here is a simple explanation of symmetry on this video: <https://www.bbc.co.uk/teach/class-clips-video/maths-ks2-finding-lines-of-symmetry/zktfgwx>

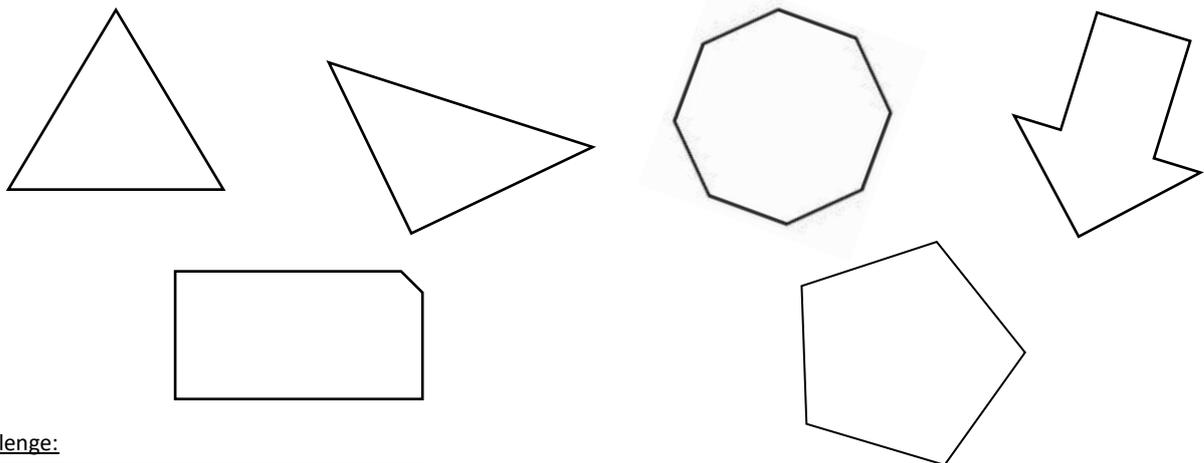
Today, we will be having a look at finding lines of symmetry in 2D shapes in different orientations. If you can, you are more than welcome to print off this page, cut out the shapes and then fold them to find the lines of symmetry. Alternatively, rotate the paper around so that you can see and draw on all of the lines of symmetry. When we have a line of symmetry, we need to look for where we can 'chop' the shape to make it the same on both sides. Most of the time, if a shape is regular (all the sides are the same length) then the number of sides is the same as the number of lines of symmetry. Irregular shapes (shapes which have different sized sides) normally have different lines of symmetry and you really have to look for them. For example:



Because a square is a regular shape, it has 4 equal sides and 4 lines of symmetry. A rectangle is irregular and therefore it doesn't have the same number of sides to lines of symmetry. A rectangle only has 2 lines of symmetry.

Task

Using the information above, see if you can write how many lines of symmetry these shapes have inside of them. **Draw the lines on with a ruler and remember: turn your page to help you!**



Challenge:



Josef

A triangle has 1 line of symmetry unless you change the orientation.

Is Josef correct? Prove it.

Tuesday

Today, we will be looking at lines of symmetry in 2D shapes still, but this time applying our knowledge of properties of shape. When we look at shapes, we need to think about the properties. A polygon is any shape with straight sides (that is 2D). Regular shapes are those with all sides the same length, but irregular shapes are those with sides of different lengths. We must remember the name of shapes- 4 sided shapes are quadrilaterals, 5 sided shapes are pentagons, 6 sided shapes are hexagons and so on! This information will help you with today's task ☺

Task

Use the information above to help you answer these questions below:

1. Sketch a regular polygon with 6 lines of symmetry
2. Sketch an irregular pentagon, how many lines of symmetry does it have?
3. Which triangle has the most lines of symmetry? Equilateral, right-angled, isosceles or scalene?



4. What is this shape and how many lines of symmetry does it have?



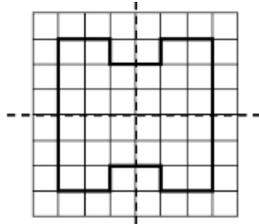
Challenge:

Always, Sometimes, Never.

A four-sided shape has four lines of symmetry.

Thursday

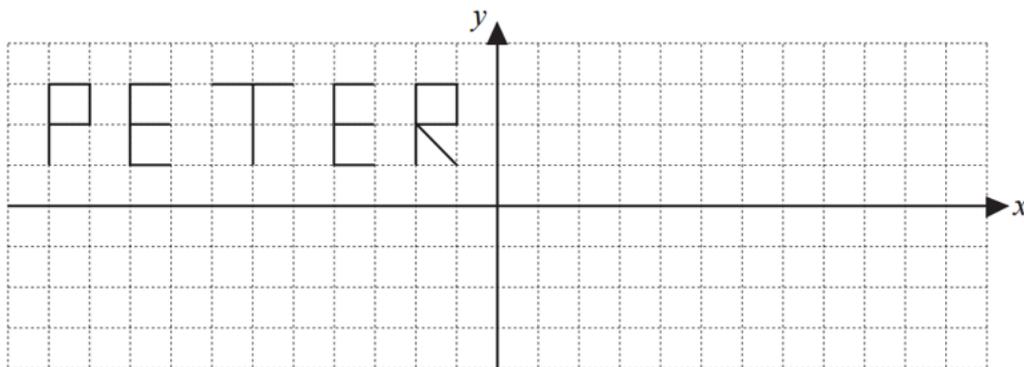
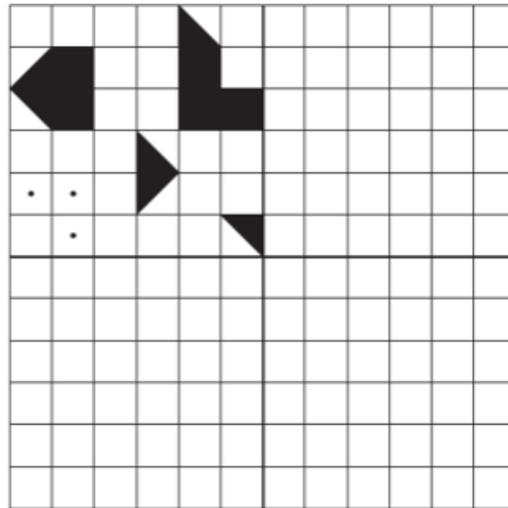
Today, we will be continuing with our line symmetry. However, we will now be looking at symmetry across both one and two lines. This is a little bit trickier, but if we apply the skills from yesterday about 'counting the squares' and remembering that we only need to focus on one line of symmetry at a time, then we will have this aced! Here is an example below:



In this situation, we would start with the top left drawing. Either start by looking at the top right corner to start doing the symmetrical shape OR the bottom left corner. Do not panic about doing both at the same time, it might even be a good idea to cover the rest of the shape with paper so you are only focusing on one section. Then count the squares and complete that section. Move onto the next section and cover the rest with paper when you have completed one section.

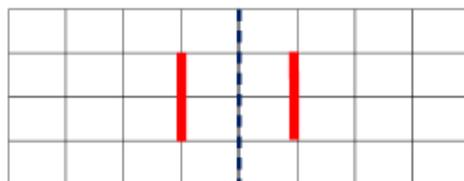
Task:

Using the information above, see if you can complete these questions below:



Challenge:

How many different symmetrical shapes can you create using the given sides?



Friday

TT rockstars/Mathletics/Arithmetic test ☺ If you have completed all of the Mathletics activities which I have assigned, please choose on the homepage an activity which relates to the maths you have been doing this week.

Help for this week

If your child is really struggling with this week's work, I would suggest starting with these basic steps to seeing symmetry.



- Cut around some simple shapes e.g. circle, square, rectangle, triangle and get your child to see if they can fold them in half. Question them- does it look the same on both sides? Why/why not? If it doesn't, then the shape is not symmetrical. If it does, then the shape is symmetrical.
- Have a look with a mirror. Have a shape drawn on a piece of paper and hold a mirror up to the middle of the shape. Does the image projected on the mirror look the same as the piece is it projecting? If it does, then it is symmetrical. If it doesn't, it is not symmetrical.
- If they are struggling with symmetrical shapes (e.g. the harder shapes using dots or squares coloured in) then discuss and show them how we can count the squares/dots from the centre line to be able to create the overall image. Count out and then copy this on the other side.

Games relating to this week:

- Symmetry game where you need to answer questions to beat the robot and win: <https://www.topmarks.co.uk/Flash.aspx?a=activity19>
- Rotational symmetry videos to show you how you can find lines of symmetry by turning the shape around: <https://www.free-training-tutorial.com/math-games/symmetry-rotational-game.html>
- Brief explanation about symmetry with teaching slides and a mini test: <http://lrrpublic.cli.det.nsw.edu.au/lrrSecure/Sites/Web/skool/math/step/symmetry/index.html>
- Create your own symmetrical drawings/patterns here: https://garyhall.org.uk/nns/symmetry_2_2.swf

If you need any extra support, please email me on michaelsyddallyear4@gmail.com and I will help ☺