Mrs Clay's Y5 Thursday Maths Task: 2nd July

Measuring Angles in Art

As you have been learning how to measure and draw angles this week, my maths task for today will involve you identifying and measuring angles in a piece of artwork. The piece of artwork I have chosen is Kandinsky's Composition 8 (and is included on the next page of this document). Using your skills with a protractor, see if you can identify and then measure 6 different acute angles, 6 different obtuse angles and 6 different reflex angles (you could challenge yourself to find more than this if you are able to do this quickly). If you can't identify 6 of one type of angle, maybe find more of another type. What is the largest angle that you can find and measure (not including a circle of 360°)? What is the smallest angle you can find and measure?

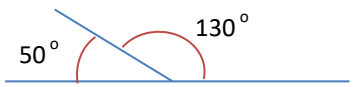
Useful Information:

- An acute angle is one that is smaller than 90°
- An obtuse angle is one that is greater than 90° but smaller than 180°
- A reflex angle is one that is greater than 180° but smaller than 360°

Extension: Using your knowledge of calculating angles on a straight line, can you use this to calculate the size of an angle in a pair when you have only measured one of the angles? (Choose a pair or group of angles from the artwork.)

Use these facts to help you (some of these may not yet be familiar to you, but have a go!):

- Angles on a straight line add up to 180°:



- Opposite angles are equal (my favourite fact, if you can have a favourite fact in geometry!):

If you measure angle a1, then you know that its opposite angle, a2, must be equal. If you measure angle b1, then you know that its opposite angle, b2, must be equal. We also know some other facts from this example:

- angle a1 + angle b1 = 180°, as they form a straight line (tip your head sideways a bit to check this!) The same is true for a1 + b2, b2 + a2 and a2 + b1.
- angles a1 + a2 + b1 + b2 will all equal 360°, as this group of angles form a circle around the point at which they meet (and two straight lines of 180° totals 360°)