Home-School Learning Collaboration – Mathematics

Topics in this cycle: Summer 1	Taught:	Year Group: 8

Key knowledge/concepts to be learnt ('Tell me about….')	Websites/blogs/YouTube links and further reading to deepen and consolidate learning
Angles in parallel lines and polygons: • Basic angle rules and notation • Angles in parallel lines • Constructing triangles • Interior angles of polygons • Prove simple geometric facts • Construction of bisects and perpendicular lines	https://vimeo.com/530748724 https://vimeo.com/509894521 https://vimeo.com/481595610 https://vimeo.com/533537045
Tables and probability: • Sample space • Probabilities from two-way tables • Probabilities from Venn diagrams	https://vimeo.com/483973328 https://vimeo.com/483973037 https://vimeo.com/483972889

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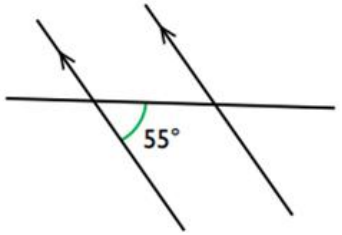
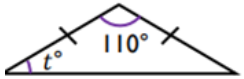
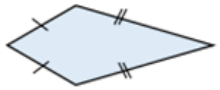
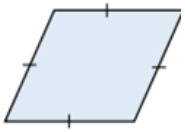
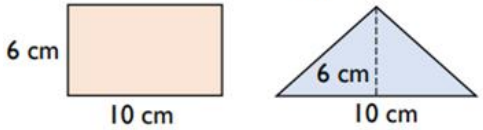
Key Vocabulary and Definitions To Be Learnt		What Will The Assessment Look Like?
Degree	Units of angle measurement	Label the angle that is alternate to the angle shown.  Work out the size of the angle marked t.  $t =$ _____ Write the mathematical names of the quadrilaterals.  
Acute angle	Angle smaller than 90 degrees	
Obtuse angle	Angle greater than 90 degrees	
Reflex angle	Angle greater than 180 degrees	
Right angle	90 degree angle	

		Work out the sum of the interior angles of an octagon. _____ Write down the sum of the exterior angles of an octagon. _____ Dexter says that the area of the rectangle is the same as the area of the triangle. Explain why Dexter is wrong. 
Supplementary angles	Adds up to 180 degrees	**Family Learning Opportunities**
Alternate angles	Are on different sides of transversal line, forming a 'z shape'	**Support your child at completing their homework and to boost SparxMaths XP level.**
Corresponding angles	Are on the same side of transversal line forming an 'f shape'	

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Co-interior angles	Are between parallel lines, forming a 'c shape'
Transversal line	A line that crosses a set of parallel lines
Parallel lines	Never meet
Perpendicular lines	Meet under 90 degree angle

Test understanding by asking questions:

Angles in parallel lines and polygons:

- **Basic angle rules and notation**

What do angles on around a point add up to?
What do angles on a straight line add up to?
When are vertically opposite angles formed?
Given an angle formed at the intersection of two lines is it always possible to find all angles around that point?

- **Angles in parallel lines**

How do you denote that two or more lines are parallel?

- **Constructing triangles**

Is it possible to construct a triangle accurately given the side lengths using only a pencil and ruler?
Is it possibly to construct a unique triangle given only three sides?

- **Interior angles of polygons**

Explain why the sum of interior angles of any polygon is a multiple of 180 degrees.

- **Prove simple geometric facts**

What's the difference between a proof and a demonstration?
How do we know the result will always be true?

- **Construction of bisects and perpendicular lines**

What does bisect mean? What does 'bi' tell us?
What does perpendicular mean?

Tables and probability- stretch:

- **Product rule and total outcomes:**

How can we find the total of arrangements without listing each one?
Is commutativity important when working out the total number of arrangements? Why/Why not?

		How can factors help when finding lists that have a specific number of arrangements? **More:** https://youtu.be/RuE2Rqd0wu4?si=5_f9qOwhWPB1YspV