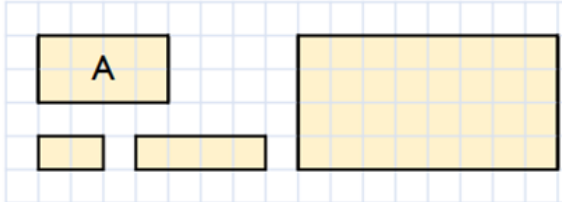
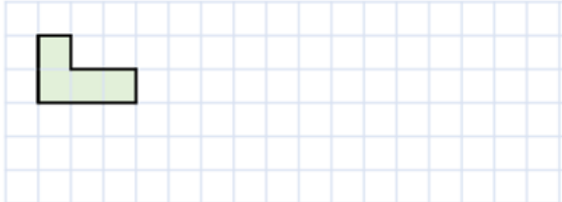
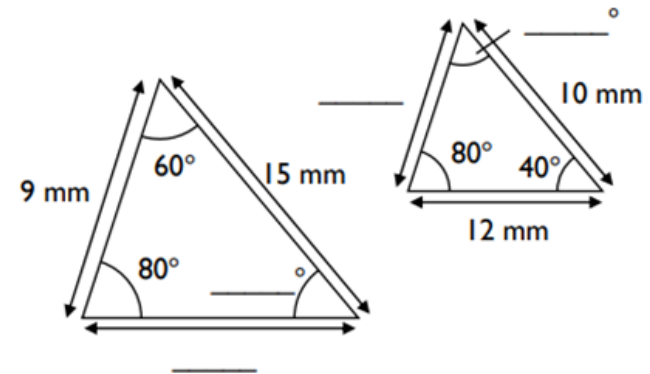


Home-School Learning Collaboration – Mathematics

Topics in this cycle: Summer 1	Taught:	Year Group: 9
Key knowledge/concepts to be learnt ('Tell me about....')		Websites/blogs/YouTube links and further reading to deepen and consolidate learning
<p>Enlargement & similarity</p> <ul style="list-style-type: none"> • Enlarge - positive integer scale factor • Enlarge - fractional scale factor • Enlarge - negative scale factor • Missing sides and angles in similar shapes • Solve problems with similar triangles <p>Solving ratio & proportion problems</p> <ul style="list-style-type: none"> • Direct proportion • Inverse proportion • Graphs of proportional graphs • Solve ratio problems • Solve 'best buy' problems 		<p> https://vimeo.com/574601455 https://vimeo.com/530344590 https://vimeo.com/530345022 </p> <p> https://vimeo.com/538594402 https://vimeo.com/656622188 https://vimeo.com/539667310 https://vimeo.com/539667974 </p>

Key Vocabulary and Definitions To Be Learnt		What Will The Assessment Look Like?
Ratio	Comparing one thing to another	<p>Tick the shapes that are similar to A.</p>  <p>On the grid, enlarge the shape by scale factor 3</p> 
Scale Factor	A constant multiplier, it denotes a magnitude of enlargement	
Enlargement	Transforming a shape into bigger or smaller	
Corresponding	matching	
Similar	Two shapes are similar, if their corresponding angles are equal and corresponding sides are in proportion	

Work out the unknown lengths and angles in the pair of similar triangles.



The cost of buying 3 cups of coffee is £4.50
Complete the table to show the cost of buying different numbers of cups of coffee.

Number of cups	3	6	8	
Price (£)	4.50			18

It takes 2 workers 6 hours to paint a school hall.
How long would it take 4 workers to paint the same hall?

		<p>Which is better value for money?</p> <div>400 ml can of lemonade for 60p</div> <p>or</p> <div>2.5 litre bottle of lemonade for £3.60</div> <p>Show working to justify your answer.</p>
Constant	Of the same value across	<p>Family Learning Opportunities</p> <p>Support you child at busting XP levels on SPARX MATH HOMEWORK.</p> <p><u>Test understanding by asking questions:</u></p> <p>Enlargement & similarity</p> <ul style="list-style-type: none"> Enlarge - positive integer scale factor How do the lengths of the image compare to the lengths of the object? How do their perimeters compare? What is meant by the 'centre' of enlargement? Enlarge - fractional scale factor Does enlargement always mean make the shape larger? How do you enlarge a shape by a scale factor of $\frac{1}{4}$? Enlarge - negative scale factor
Multiplier	The second number in a multiplication sentence, the one we multiply by	
Gradient	Steepness on a line	
Density	The amount of mass in 1 unit of volume	

		<p>What's the same and what's different about the relative position of the image and object after a negative enlargement?</p> <ul style="list-style-type: none">• <u>Missing sides and angles in similar shapes</u> <p>How do you identify corresponding sides and angles in a pair of similar shapes?</p> <p>What's the connection between similarity and scale factors of enlargement?</p> <p><u>Solving ratio & proportion problems</u></p> <ul style="list-style-type: none">• <u>Inverse proportion</u> <p>Is the graph of an inverse proportion relationship linear or non-linear? Why?</p> <p>Does the graph showing inverse proportion start at the origin?</p> <ul style="list-style-type: none">• <u>Ratio problems with algebra</u> <p>Knowing the ratio of two quantities a and b, what fractions can you write?</p> <p><u>More:</u></p> <p>Challenge: proving similarity of triangles: https://vimeo.com/575514641</p>
--	--	--