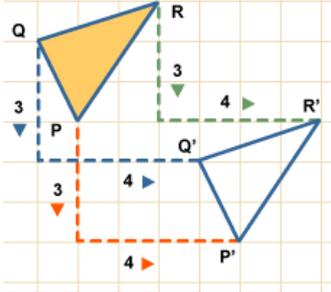
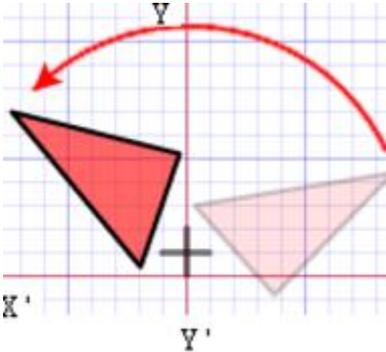
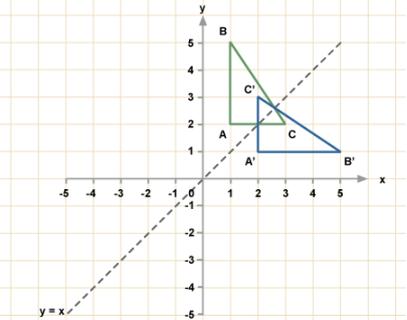
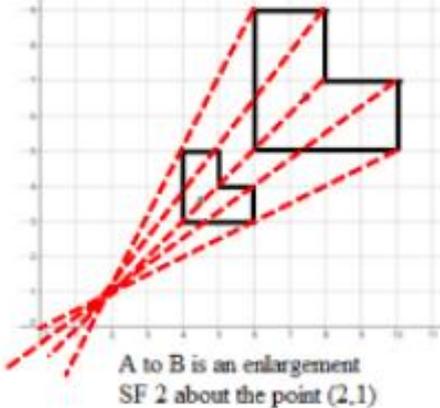
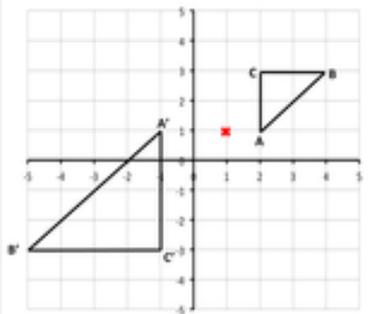


Topic/Skill	Definition/Tips	Example
1. Translation	<p>Translate means to move a shape. The shape does not change size or orientation.</p>	
2. Column Vector	<p>In a column vector, the top number moves left (-) or right (+) and the bottom number moves up (+) or down (-)</p>	<p>$\begin{pmatrix} 2 \\ 3 \end{pmatrix}$ means '2 right, 3 up' $\begin{pmatrix} -1 \\ -5 \end{pmatrix}$ means '1 left, 5 down'</p>
3. Rotation	<p>The size does not change, but the shape is turned around a point. Use tracing paper.</p>	<p>Rotate Shape A 90° anti-clockwise about (0,1)</p> 
4. Reflection	<p>The size does not change, but the shape is 'flipped' like in a mirror.</p> <p>Line $x = ?$ is a vertical line. Line $y = ?$ is a horizontal line. Line $y = x$ is a diagonal line.</p>	<p>Reflect shape C in the line $y = x$</p> 
5. Enlargement	<p>The shape will get bigger or smaller. Multiply each side by the scale factor.</p>	<p>Scale Factor = 3 means '3 times larger = multiply by 3' Scale Factor = $\frac{1}{2}$ means 'half the size = divide by 2'</p>

<p>6. Finding the Centre of Enlargement</p>	<p>Draw straight lines through corresponding corners of the two shapes. The centre of enlargement is the point where all the lines cross over.</p> <p>Be careful with negative enlargements as the corresponding corners will be the other way around.</p>	 <p>A to B is an enlargement SF 2 about the point (2,1)</p>
<p>7. Describing Transformations</p>	<p>Give the following information when describing each transformation:</p> <p>Look at the number of marks in the question for a hint of how many pieces of information are needed.</p> <p>If you are asked to describe a 'transformation', you need to say the name of the type of transformation as well as the other details.</p>	<ul style="list-style-type: none"> - Translation, Vector - Rotation, Direction, Angle, Centre - Reflection, Equation of mirror line - Enlargement, Scale factor, Centre of enlargement
<p>8. Negative Scale Factor Enlargements</p>	<p>Negative enlargements will look like they have been rotated.</p> <p>$SF = -2$ will be rotated, and also twice as big.</p>	<p>Enlarge ABC by scale factor -2, centre (1,1)</p> 
<p>9. Increase or Decrease by a Percentage</p>	<p>Non-calculator: Find the percentage and add or subtract it from the original amount.</p> <p>Calculator: Find the percentage multiplier and multiply.</p>	<p><u>Increase 500 by 20% (Non Calc):</u> 10% of 500 = 50 so 20% of 500 = 100 500 + 100 = 600</p> <p><u>Decrease 800 by 17% (Calc):</u> 100% - 17% = 83% 83% ÷ 100 = 0.83 0.83 x 800 = 664</p>
<p>10. Percentage Multiplier</p>	<p>The number you multiply a quantity by to increase or decrease it by a percentage.</p>	<p>The multiplier for increasing by 12% is 1.12</p> <p>The multiplier for decreasing by 12% is 0.88</p>

		The multiplier for increasing by 100% is 2.
11. Reverse Percentage	<p>Find the correct percentage given in the question, then work backwards to find 100%</p> <p>Look out for words like 'before' or 'original'</p>	<p>A jumper was priced at £48.60 after a 10% reduction. Find its original price.</p> <p>$100\% - 10\% = 90\%$</p> <p>$90\% = £48.60$</p> <p>$1\% = £0.54$</p> <p>$100\% = £54$</p>
12. Simple Interest	Interest calculated as a percentage of the original amount.	<p>£1000 invested for 3 years at 10% simple interest.</p> <p>$10\% \text{ of } £1000 = £100$</p> <p>$\text{Interest} = 3 \times £100 = £300$</p>