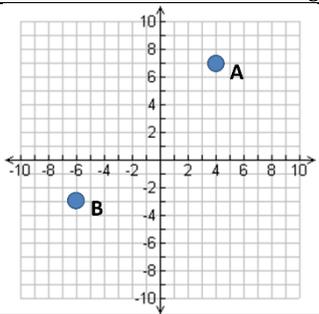
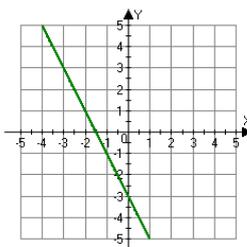
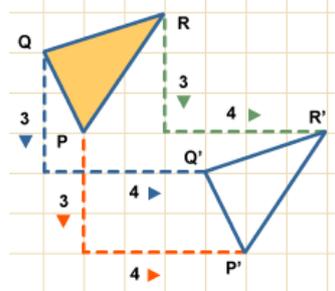
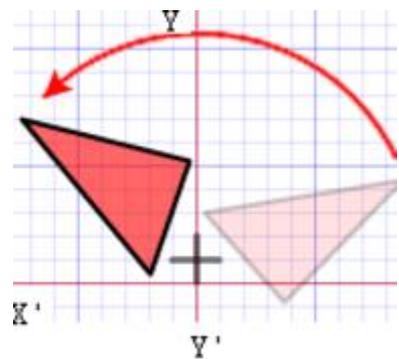
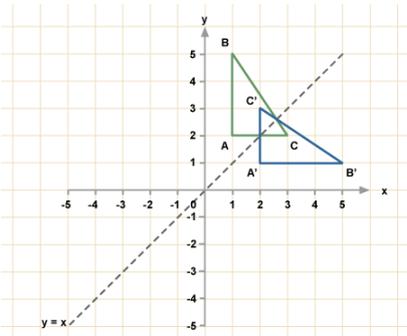


Year 7 Set 4 Spring Term 2

Topic/Skill	Definition/Tips	Example
1. Linear Sequence	A number pattern with a common difference .	2, 5, 8, 11... is a linear sequence
2. Term	Each value in a sequence is called a term.	In the sequence 2, 5, 8, 11..., 8 is the third term of the sequence.
3. Term-to-term rule	A rule which allows you to find the next term in a sequence if you know the previous term .	First term is 2. Term-to-term rule is 'add 3' Sequence is: 2, 5, 8, 11...
4. nth term	A rule which allows you to calculate the term that is in the nth position of the sequence. Also known as the 'position-to-term' rule. n refers to the position of a term in a sequence.	nth term is $3n - 1$ The 100 th term is $3 \times 100 - 1 = 299$
5. Finding the nth term of a linear sequence	1. Find the difference . 2. Multiply that by n . 3. Substitute $n = 1$ to find out what number you need to add or subtract to get the first number in the sequence .	Find the nth term of: 3, 7, 11, 15... 1. Difference is +4 2. Start with $4n$ 3. $4 \times 1 = 4$, so we need to subtract 1 to get 3. nth term = $4n - 1$
6. Geometric Sequence	A sequence of numbers where each term is found by multiplying the previous one by a number called the common ratio, r .	An example of a geometric sequence is: $2, 10, 50, 250 \dots$ The common ratio is 5 Another example of a geometric sequence is: $81, -27, 9, -3, 1 \dots$ The common ratio is $-\frac{1}{3}$
7. Coordinates	Written in pairs . The first term is the x-coordinate (movement across). The second term is the y-coordinate (movement up or down)	 A: (4,7) B: (-6,-3)
8. Linear Graph	Straight line graph. The equation of a linear graph can contain an x-term , a y-term and a number .	Example:

		 <p>Other examples: $x = y$ $y = 4$ $x = -2$ $y = 2x - 7$ $y + x = 10$ $2y - 4x = 12$</p>
9. Translation	Translate means to move a shape . The shape does not change size or orientation .	
10. Column Vector	In a column vector, the top number moves left (-) or right (+) and the bottom number moves up (+) or down (-)	$\begin{pmatrix} 2 \\ 3 \end{pmatrix}$ means '2 right, 3 up' $\begin{pmatrix} -1 \\ -5 \end{pmatrix}$ means '1 left, 5 down'
11. Rotation	The size does not change, but the shape is turned around a point . Use tracing paper.	<p>Rotate Shape A 90° anti-clockwise about (0,1)</p> 
12. Reflection	The size does not change, but the shape is ' flipped ' like in a mirror . Line $x = ?$ is a vertical line . Line $y = ?$ is a horizontal line . Line $y = x$ is a diagonal line .	<p>Reflect shape C in the line $y = x$</p> 
13. Enlargement	The shape will get bigger or smaller . Multiply each side by the scale factor .	<p>Scale Factor = 3 means '3 times larger = multiply by 3'</p> <p>Scale Factor = $\frac{1}{2}$ means 'half the size = divide by 2'</p>

