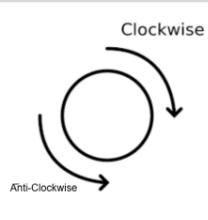
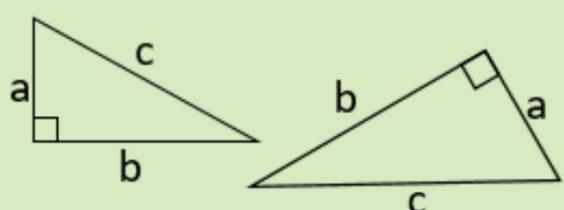


Rotation & Translation

Rotation	When a shape is turned, but stays the same size.
Describing Rotations	Rotations are described using a centre of rotation , a direction and angle of turn .
Centre of Rotation	The point that a shape is rotated around.
Clockwise	The direction the hands turn on a clock.
Anti-clockwise	The opposite direction of clockwise. 
Turns	There are 90° in a quarter turn There are 180° in a half turn There are 270° in a three quarter turn There are 360° in a full turn 
Translating	This is moving a shape without changing its orientation or size. The shape looks exactly the same, but is in a different position.
Vectors	Vectors describe the movement of a translation The top value tells you how far to the left (-) or right (+) The bottom value tells you how far up (-) or down (+)
Examples of Vector Notation	$\begin{pmatrix} 3 \\ -2 \end{pmatrix}$ 3 units right 2 units down $\begin{pmatrix} -1 \\ 4 \end{pmatrix}$ 1 unit left 4 units up
	$\begin{pmatrix} 0 \\ 4 \end{pmatrix}$ 4 units up $\begin{pmatrix} 3 \\ 0 \end{pmatrix}$ 3 units right
Transformation	A general term for four specific ways to manipulate a shape: Rotation; Translation; Enlargement; Reflection
Reflection	An image as it would be seen in a mirror.

Pythagoras' Theorem

Pythagoras' Theorem	Pythagoras' Theorem: In a right-angled triangle the square of the long side is equal to the sum of the squares of the other two sides. You can use Pythagoras' theorem to check if a triangle contains a right angle. If the lengths of the three sides fit the formula then the triangle contains a right angle.
Hypotenuse	Hypotenuse is the longest side in a right-angled triangle, represented by "c". It is always opposite the right angle.
Formula for Pythagoras' Theorem	$a^2 + b^2 = c^2$
How to label triangles for Pythagoras' Theorem	
Squaring a number	Means you multiply the number by itself.
Square Root	The opposite of squaring i.e. multiplying a number by itself. The square root symbol looks like  the image on the right.
Right angle	Pythagoras only works in right angled triangles. Right angles are at 90°

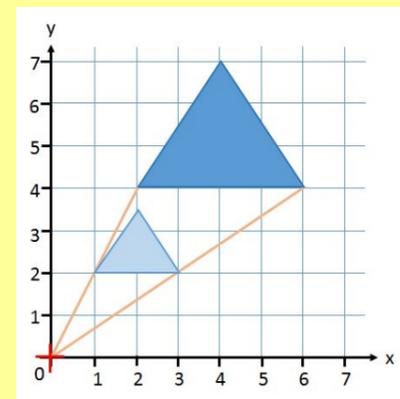


Trinity TV

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Trinity TV > Year 9 > Maths > Term 4

Enlargement

Enlargement	A transformation that multiplies all the lengths of a shape by a scale factor . This often changes the size and position of the shape, but not always.
Scale Factor	A multiplier which tells you how much a shape is enlarged by. Shapes become smaller when a scale factor is positive and less than 1.
Similar Shapes	When one shape is an enlargement of another then the two shapes are similar . Similar shapes have exactly the same size angles.
Centre of Enlargement	The point from which a shape is enlarged from and determines the position of the new shape.
Ray Lines	Ray lines can be drawn to each corresponding vertex of the shapes to help identify the centre of enlargement. Equally, ray lines can also be drawn from a centre of enlargement to help identify where the new enlarged shape will be. 
Fractional Enlargements	When a shape is enlarged by a scale factor between 0 and 1, the image is smaller than the original shape.
Negative Enlargements	An enlargement with a negative scale factor produces an image on the other side of the centre of enlargement. The image appears upside down. 