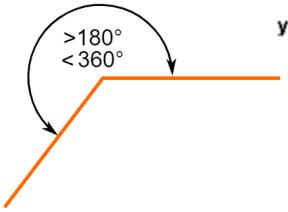
Castlefield School- Maths

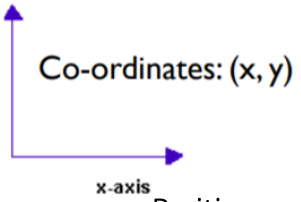
Topic: Angles, lines and shapes	Year: Five	Theme: Geometry

Representations

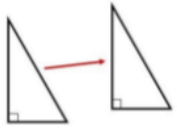
Reflex angle



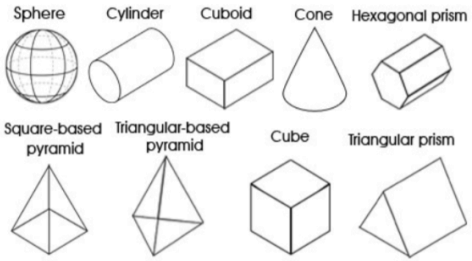
Using a grid



Position



3D shapes

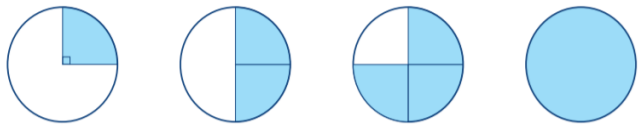


Making connections

The 9 times table will help identify quarter, half, three quarter and whole turns. These increase by 90° each time. The 90 times table is ten times bigger than the 9 times table.

9	18	27	36
90	180	270	360

Multiples of 90° can be used as descriptions of a turn.



$\frac{1}{4}$ turn = 90° | $\frac{1}{2}$ turn = 180° | $\frac{3}{4}$ turn = 270° | 1 turn = 360°

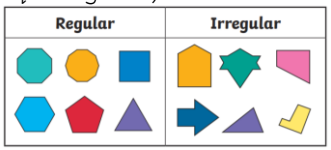
Key Vocabulary

right angle	acute angle	obtuse angle	degrees
clockwise	anti-clockwise	parallel	perpendicular
2D	3D	vertices	turn
x-axis	y-axis	coordinates	plot
regular shape	same size sides and angles	irregular shape	different sides and angles
reflex angle	between 180° and 360°	interior angle	angles within in a shape
translation	to move a shape	reflection	to reflect a shape on a line of symmetry

Key concepts and questions

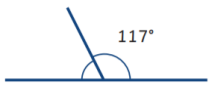
Is this shape regular or irregular?

Regular shapes have sides that are all the same length (equilateral) and angles which are all the same size (equiangular).

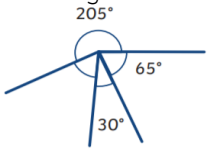


What is the missing angle?

Angles around a point add up to 360° whilst angles on a straight line equal 180°.



180°-117 °=63 °



205°+65°+30°= 300°
360°-300°=60°

Do these lines make a right angle?

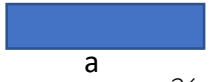
Yes, they do. It doesn't matter which way up the L shape is, if the lines meets at 90 degrees then it is a right angle.

What is the missing length?

Regular shapes have equal sides. If you know the length of one side, you know the length of all the sides.

Opposite sides of rectangles are equal. You can use algebra to help find the missing length.

For example, the perimeter of this shape is 36cm.



36cm=4cm+4cm+a+a
So, 36cm-4cm-4cm= 28cm = 2 x a
A = 28 ÷ 2 = 14cm