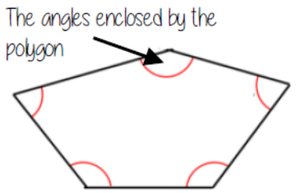
Year 8 Summer 1

KEYWORDS:

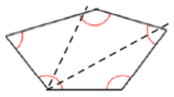
Polygon	A 2D shape made with straight lines	**Perpendicular**	At an angle of 90° to a given surface
Regular Polygon	All sides are equal length, all interior angles are equal	**Vertex**	A point where two or more line segments meet
Sum	Addition (total of all the interior angles added together)	**Mirror Line**	A line that passes through the centre of a shape with a mirror image on either side
Area	Space inside a 2D object	**Reflect**	Mapping of one object from one position to another of equal distance from a given line

Interior Angles



Sum of interior angles (number of sides – 2) x 180

Sum of the interior angles = (5 – 2) x 180



This shape can be made from three triangles
Each triangle has 180°

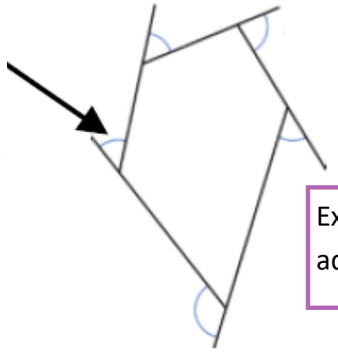
Sum of the interior angles = 3 x 180
= 540°

Video 561

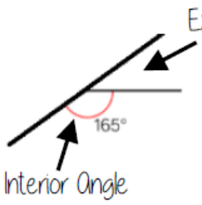
Exterior Angles

Video 563

are the angles formed from the straight-line extension at the side of a shape



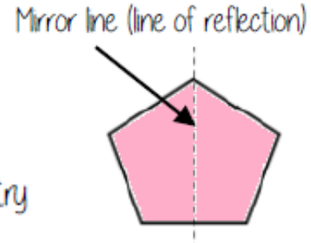
Exterior angles all add up to 360°

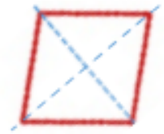


Interior angle + Exterior angle = straight line = 180°
Exterior angle = 180 – 165 = 15°

Number of sides = 360° ÷ exterior angle
Number of sides = 360 ÷ 15 = 24 sides

Symmetry and Reflection

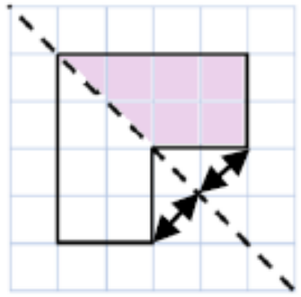


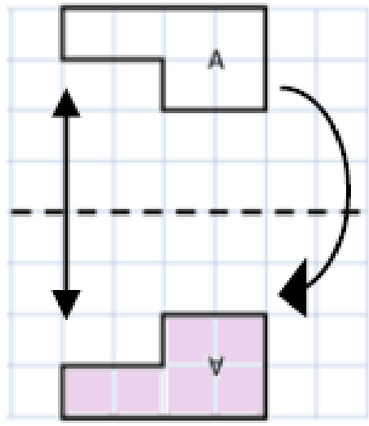


Rhombus
two lines of symmetry

Parallelogram
No lines of symmetry

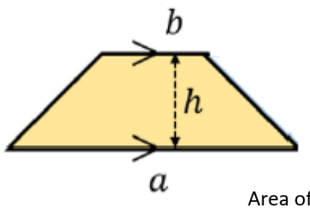
When you reflect a shape, all points need to be the same distance away from the line of reflection.





Video 827, 639-641

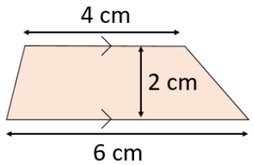
Area of a trapezium



Area of a trapezium
$\frac{(a+b) \times h}{2}$

Area of trapezium $= \frac{1}{2}(a+b)\,h$

Example



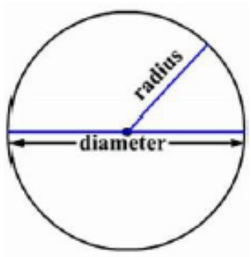
$= \frac{1}{2}(4+6)\,2$

$= \frac{1}{2} \times 10 \times 2$

$= 10\ cm^2$

Video 559

Area of a circle



Area of a circle
π x radius^2

SHIFT ×10^x

How to get π symbol on the calculator

Video 539

Diameter = 8cm
∴ Radius = 4cm

π x radius^2
= π x 4^2
= π x 16
= 16π cm^2