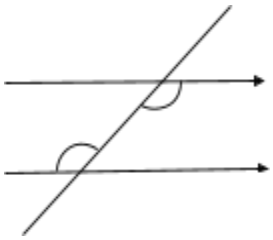
Math formula sheet : Angles and Shapes

Angles

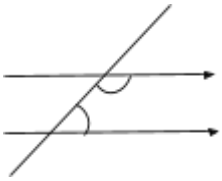


Interior alternate angles,

Equal

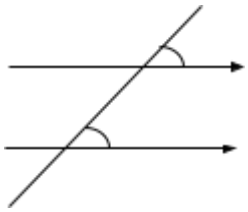
Vertically opposite angles,

Equal



Allied angles,

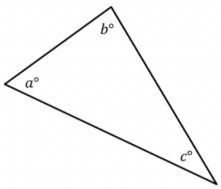
Add to 180



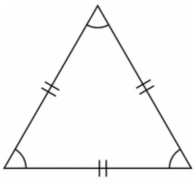
Corresponding angles,

Equal

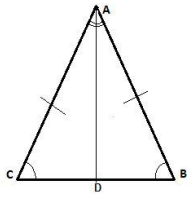
Triangles



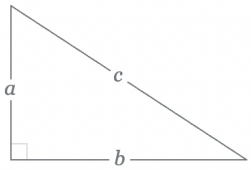
a+b+c =180



Equilateral triangle

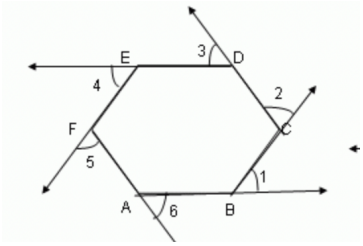


Isosceles triangle

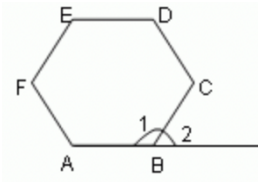


$a^2 + b^2 = c^2$, right angled triangle

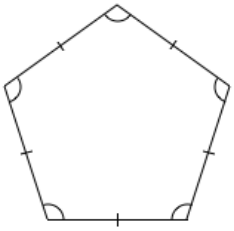
Polygons



- Exterior angles (1,2,3,4,5,6) add to 360
- Sum of interior angles : (n-2) x 180 , where n is the number of sides

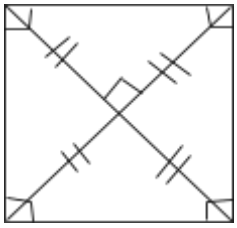


exterior angle (2) + interior angle (1) = 180



A regular polygon has all sides equal, and all angles equal

Quadrilaterals



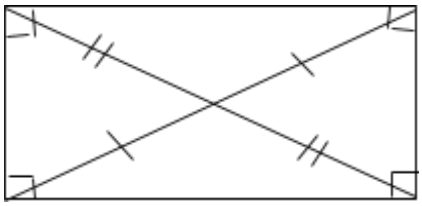
1.Square

4 lines of symmetry

Rotational symmetry of order 4

Area = side²

Perimeter= 4 x side



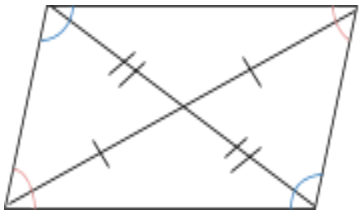
2. Rectangle

2 lines of symmetry

Rotational symmetry of order 2

Area = length x width

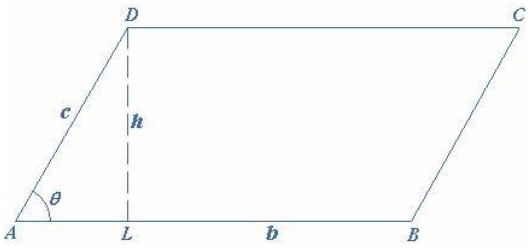
Perimeter = 2(length + width)



3.Parallelogram

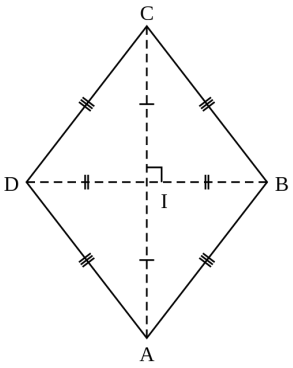
No lines of symmetry

Rotational symmetry of order 2



Area = AB x h (base x height)

= AB x c sinθ (as c sinθ = h)

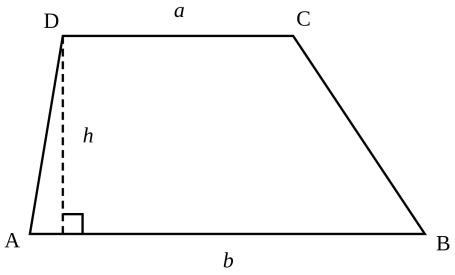


4.Rhombus

2 lines of symmetry

Rotational symmetry of order 2

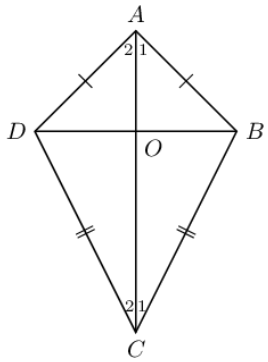
Diagonals bisect angles, so ∠DAC = ∠BAC



5. Trapezium

Area = ½ h (a + b)

a and b are parallel sides



6.Kite

1 line of symmetry, no rotational symmetry

Area = ½ DB x AC (½ x product of diagonals)

Diagonals form right angles where they intersect