

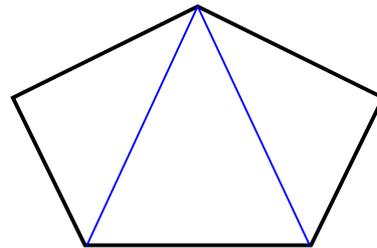
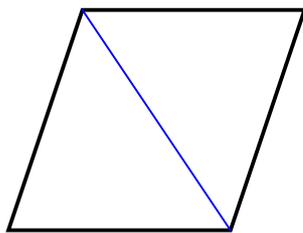
Investigation

The sum of internal angles of all pentagons equal 540 degrees.

The sum of the internal angles of all triangles equals 180 degrees

The sum of the internal angles of all quadrilaterals equal 360 degrees

Given that the statement, "The sum of the internal angles of all triangles equals 180 degrees", is correct can you find out by triangulating polygons the sum of their internal angles. E.g.



It may help you to record your information on a chart

Shape	No. of sides	No. of vertices	No. of triangles	sum of degrees
Rhombus	4	4	2	360
Pentagon	5	5	3	540

Continue your table by drawing and triangulating polygons with more sides. Do you see a pattern developing? Can you find a rule to explain what happens each time any polygon is triangulated.

- Extensions :
- (i) Write a formula to give the angles of a polygon with 'n' sides
 - (ii) Find the external angles of a polygon - what is the relationship between the internal and the external angles of polygon?