

# Interior Angles In Polygons

You are going to investigate angles inside polygons and look at what they total to when you add them up. We call the angles inside a polygon 'Interior Angles'.

Follow the instructions below and then answer the questions at the bottom of the page.

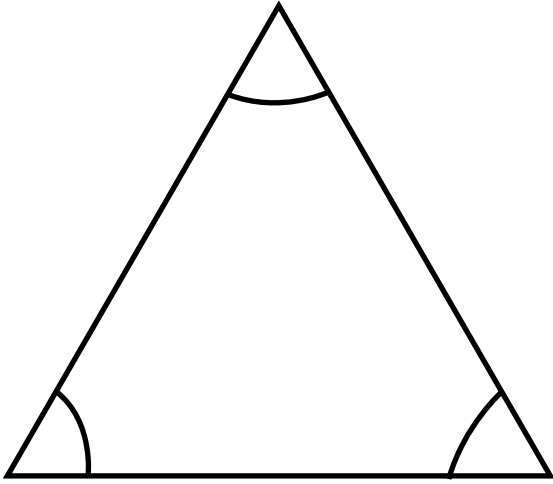
1. Measure all the interior angles inside the shapes on your worksheets using a protractor.
2. Add all the interior angles up for each shape and write the answer under each shape.
3. Fill in the table below with your answers.

Shape name	Number of sides	Sum of interior angles
Triangle	3	
Quadrilateral	4	
Pentagon	5	
	6	
	7	
	8	
	9	
	10	

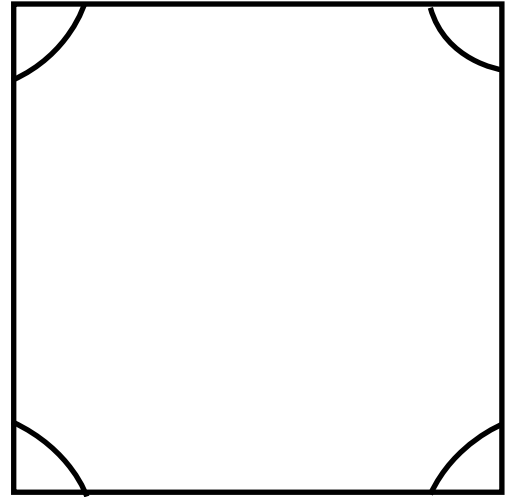
Round all your answers in the 'sum of interior angles' column to the nearest 10 degrees.

## Questions

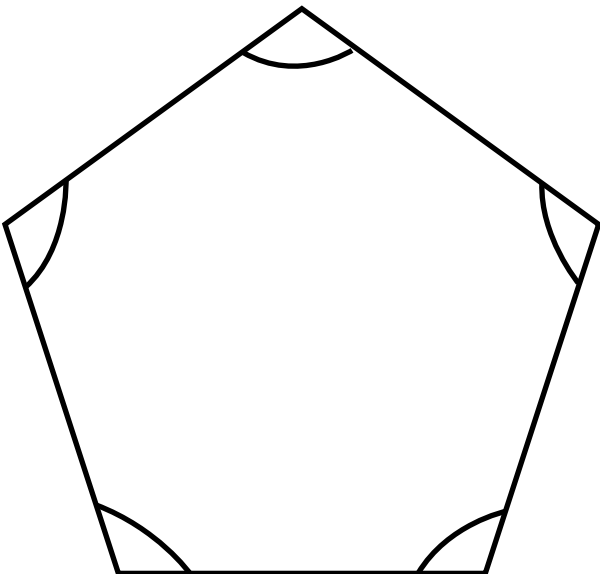
1. Can you spot a pattern in how the sum of the interior angles increases as another side is added to the shape?
2. Can you find a rule to explain how to get from the number of sides to the sum of the interior angles?
3. Can you use your rule to work out what the sum of the interior angles would be for a 12 sided shape?
4. All the shapes in your investigation were regular (all sides and angles the same length). Repeat the investigation by drawing your own irregular polygons. Do you get the same results?



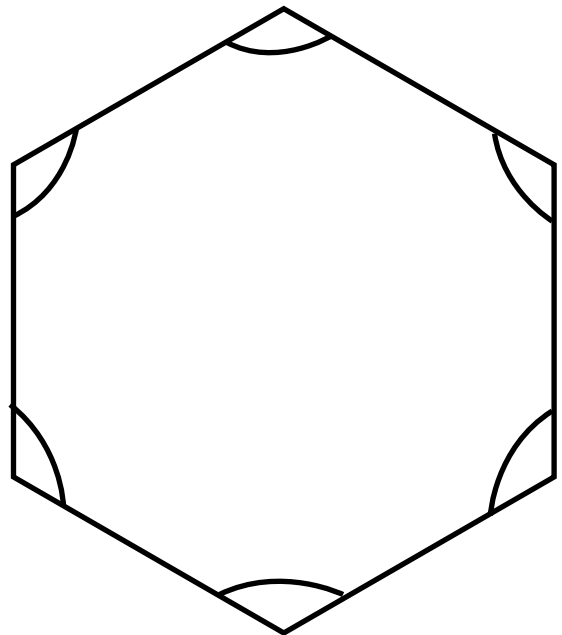
Sum of interior angles = .....



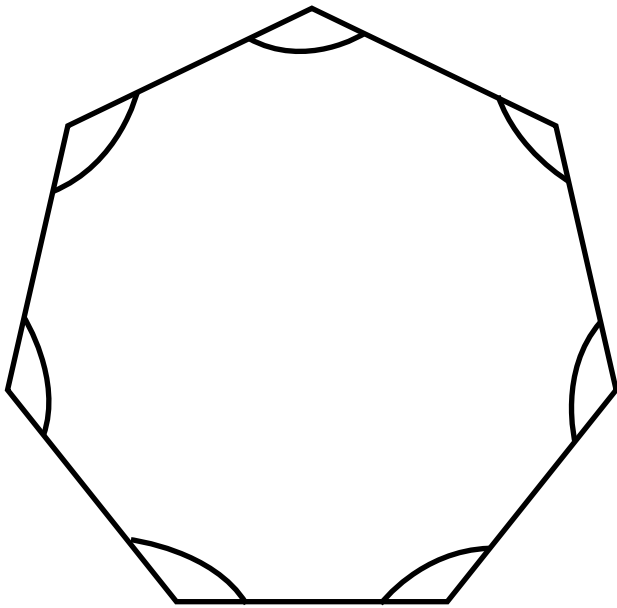
Sum of interior angles = .....



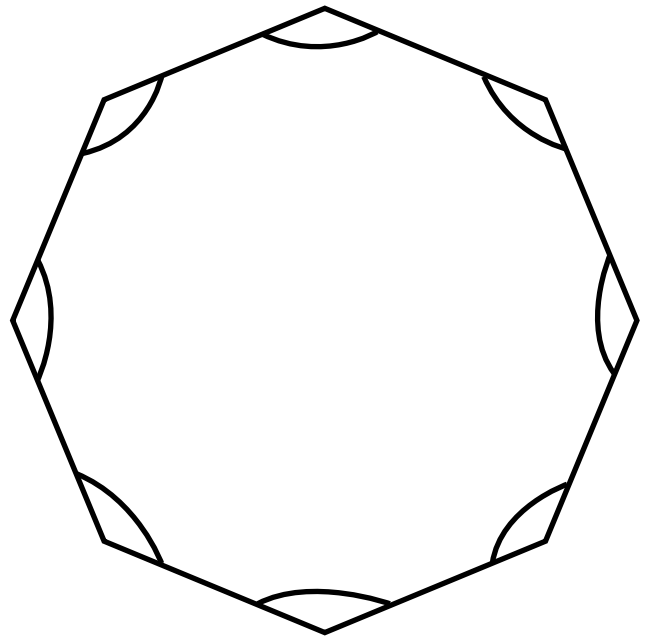
Sum of interior angles = .....



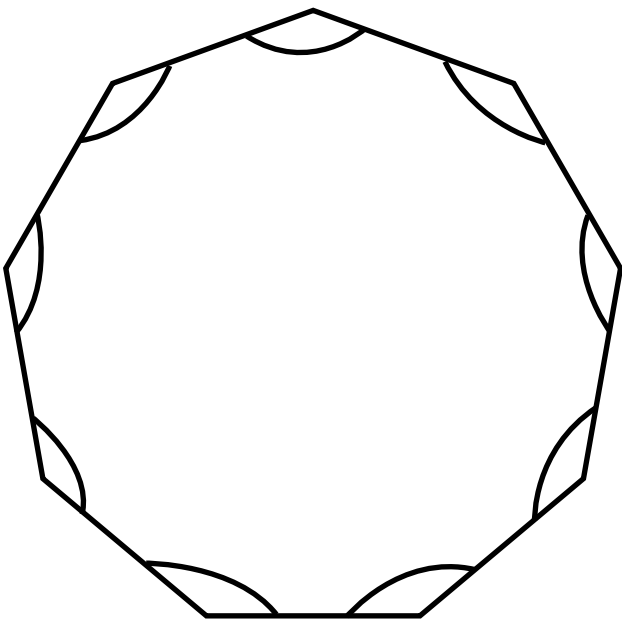
Sum of interior angles = .....



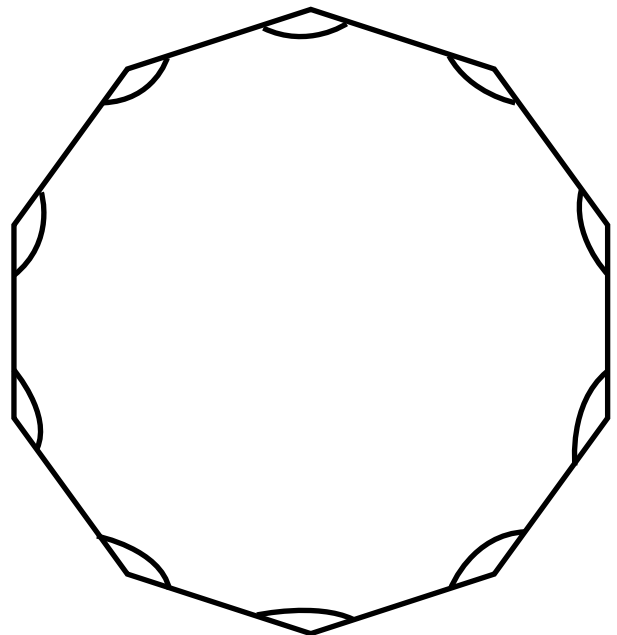
Sum of interior angles = .....



Sum of interior angles = .....



Sum of interior angles = .....



Sum of interior angles = .....