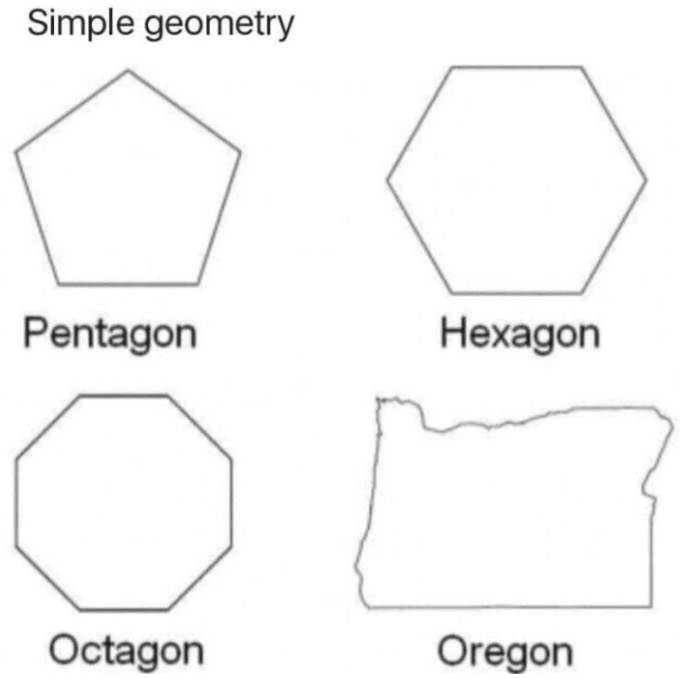
# Angles F – Formula for Interior Angles

### Intro:



### Prior knowledge:

To know the exterior angle sum of a polygon

### Activities:

Write it down on your mini whiteboards.

Find the value of each exterior angle of a regular hexagon.

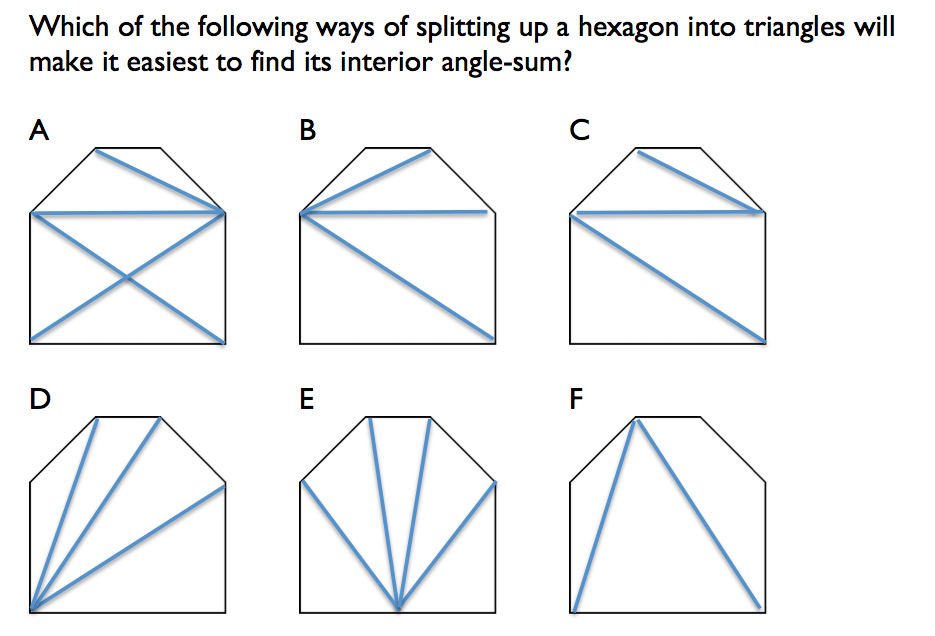
### Prior knowledge:

To know how to draw triangles within a shape to find the interior angle sum.

### Activities:

Video explaining this fact:

<https://www.youtube.com/watch?v=IUCK8bk0xPo>



### Prior knowledge:

To know a rule for how many triangles fit into a polygon

### Activities:

Write down what you remember on mini-whiteboards

### Aims:

To know and use the formula for the interior angle sum of a polygon.

### Activities:

If a polygon has sides (teacher explanation of why we use instead of the traditional here), what will be the interior angle sum?

Adjust your formula to give each interior angle of a regular polygon.

Example: Find the angle sum of a 17-gon.

Example: Find the value of each interior angle of a nonagon.

Angles F Practice - Section A

### Aims:

To use this formula in reverse to find the number of sides of a regular shape, when given the interior angle.

### Activities:

Example

Find the number of sides of a regular polygon with interior angle 156

### Aims:

To also apply the exterior angle approach.

### Activities:

Example followed by section B

Find the number of sides of a regular polygon where each interior angle is 157.5 degrees.

### Assessment:

Find the value of each interior angle of a regular 22-gon.

Find the exterior angle of a polygon with an interior angle of 156 degrees.

Hence find the number of sides of this polygon.