In/Exterior angles

How to . . .

The diagram shows a square and 4 regular pentagons.

Work out the size of the angle marked *x*

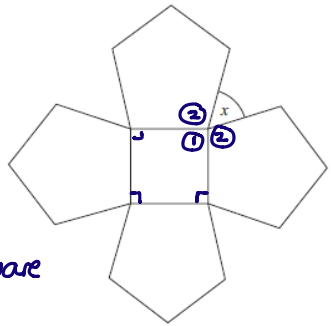
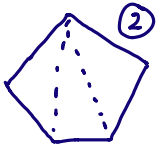


Diagram not drawn to scale

① this is 90° as its a square



② total interior angles in a pentagon = 540°

so 1 angle = 540 ÷ 5

= 108°

③ $x = 360 - (108 + 108 + 90)$

$= 360 - 306$

$= 54°$

108
108
90
306

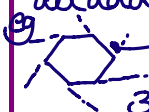
A note about interior + exterior angles → you can use this fact to work out the interior angle, in this case

180 - 60 = 120°

INTERIOR & EXTERIOR ANGLES ARE NOT THE SAME

(3)

Exterior angles all add up to 360°

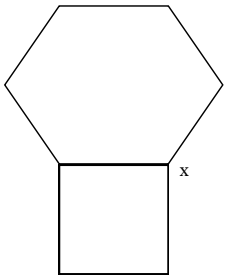


this is an exterior angle

360° ÷ 6 = 60°

Now have a go yourself . . .

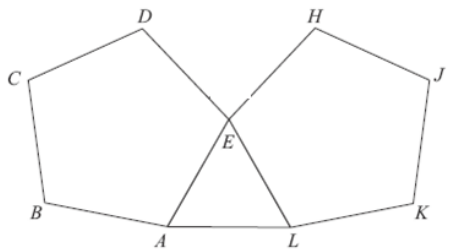
Q1. The diagram shows a regular hexagon and a square. Work out the size of the angle marked x.



Q2. Each exterior angle of a regular polygon is 30°. Work out the number of sides of the polygon.

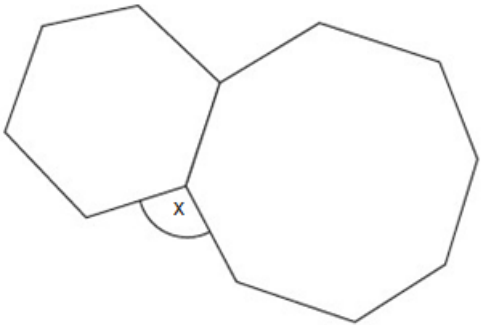
Q3. Calculate the size of the interior angle of a regular ten sided polygon.

Q4. ABCDE and EHJKL are regular pentagons. AEL is an equilateral triangle. Work out the size of angle DEH.



Exam Questions

The diagram shows a regular hexagon and a regular octagon. Work out the size of the angle marked x. You must show all your working out



Ready to be marked ?

Checklist

- ☐ Answers checked
- ☐ Reasons/Working shown

Keywords

Things to remember …

What went well …

Teacher comment ..