



Understanding shapes-II Quadrilaterals Ex 16.1 Q19

Answer :

$$\text{Each exterior angle} = \left(\frac{360}{n} \right)^\circ$$

For a regular pentagon, $n = 5$.

$$\therefore \text{Exterior angle} = \left(\frac{360}{5} \right)^\circ = 72^\circ$$

Understanding shapes-II Quadrilaterals Ex 16.1 Q20

Answer :

Since the sum of all the angles of a hexagon is 720° , we get :

$$x^\circ + (x - 5)^\circ + (x - 5)^\circ + (2x - 5)^\circ + (2x - 5)^\circ + (2x + 20)^\circ = 720^\circ$$

$$\Rightarrow x^\circ + x^\circ - 5^\circ + x^\circ - 5^\circ + 2x - 5^\circ + 2x - 5^\circ + 2x + 20^\circ = 720^\circ$$

$$\Rightarrow 9x - 20^\circ + 20^\circ = 720^\circ$$

$$\Rightarrow 9x = 720^\circ$$

$$\therefore x = 80$$

Understanding shapes-II Quadrilaterals Ex 16.1 Q21

Answer :

For a convex hexagon, interior angle $= \left(\frac{2n-4}{n} \times 90^\circ \right)$

For a hexagon, $n = 6$

$$\therefore \text{Interior angle} = \left(\frac{12-4}{6} \times 90^\circ \right)$$

$$= \left(\frac{8}{6} \times 90^\circ \right)$$

$$= 120^\circ$$

So, the sum of all the interior angles $= 120^\circ + 120^\circ + 120^\circ + 120^\circ + 120^\circ + 120^\circ$
 $= 720^\circ$

$$\therefore \text{Exterior angle} = \left(\frac{360}{n} \right)^\circ = \left(\frac{360}{6} \right)^\circ = 60^\circ$$

So, sum of all the exterior angles $= 60^\circ + 60^\circ + 60^\circ + 60^\circ + 60^\circ + 60^\circ = 360^\circ$

Now, sum of all interior angles $= 720^\circ$

$$= 2(360^\circ)$$

$=$ twice the exterior angles

Hence proved.

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