



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  $720^\circ$ , 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,  $n = 6$

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

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

$$= 120^\circ$$

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

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

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

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

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

$$= \text{twice the exterior angles}$$

Hence proved.

\*\*\*\*\* END \*\*\*\*\*