

Understanding shapes-II Quadrilaterals Ex 16.1 Q22

Answer:

$$\begin{aligned} &\{(2n-4)\times 90^{\circ}\} = 3\times \left(\frac{360^{\circ}}{n}\times n\right) \\ &\Rightarrow (n-2)\times 180 = 3\times 360 \\ &\Rightarrow n-2=6 \\ &\therefore n=8 \end{aligned}$$

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Let n be the number of sides of a polygon.

Let x and 5x be the exterior and interior angles.

Since the sum of an interior and the corresponding exterior angle is 180° , we have

 $x + 5x = 180^{\circ}$

 $\Rightarrow 6x = 180^{\circ}$

 $\Rightarrow x = 30^{\circ}$

The polygon has n sides.

So, sum of all the exterior angles = (30n)°

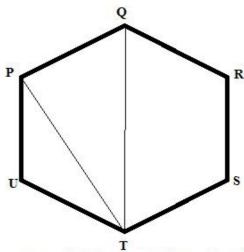
We know that the sum of all the exterior angles of a polygon is 360°.

i.e., 30n = 360

 $\therefore n = 12$

Understanding shapes-II Quadrilaterals Ex 16.1 Q24

Answer:



A regular hexagon is made up of 6 equilateral triangles.

So,
$$\angle PQT = 60^{\circ}$$
 and $\angle QTP = 30^{\circ}$

Since the sum of the angles of $\triangle PQT$ is 180° , we have:

$$\angle P + \angle Q + \angle T = 180^{\circ}$$

$$\Rightarrow \angle P + 60^{\circ} + 30^{\circ} = 180^{\circ}$$

$$\Rightarrow \angle P = 180^{\circ} - 90^{\circ}$$

$$\Rightarrow \angle QPT = 90^{\circ}$$

... The angles of the triangle are 90° , 60° and 30° .

********** END ********