Understanding shapes-II Quadrilaterals Ex 16.1 Q22

Answer :

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

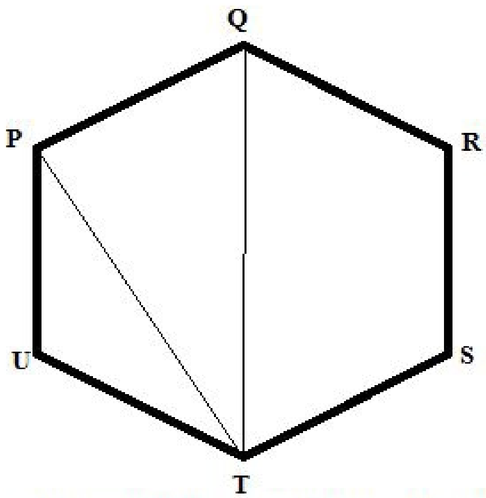
Understanding shapes-II Quadrilaterals Ex 16.1 Q23

Answer :

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 $= (30n)^\circ$
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 :

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

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

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

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

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

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