



Understanding shapes-II Quadrilaterals Ex 16.1 Q18

Answer :

$$(i) \text{ Each interior angle} = \left(\frac{2n-4}{n} \times 90 \right)^{\circ}$$

$$\text{So, } \left(\frac{2n-4}{n} \times 90 \right)^{\circ} = 160^{\circ}$$

$$\Rightarrow \frac{2n-4}{n} = \frac{160^{\circ}}{90^{\circ}}$$

$$\Rightarrow \frac{2n-4}{n} = \frac{16}{9}$$

$$\Rightarrow 18n - 36 = 16n$$

$$\Rightarrow 2n = 36$$

$$\therefore n = 18$$

$$(ii) \text{ Each interior angle} = \left(\frac{2n-4}{n} \times 90 \right)^{\circ}$$

$$\text{So, } \left(\frac{2n-4}{n} \times 90 \right)^{\circ} = 135^{\circ}$$

$$\Rightarrow \frac{2n-4}{n} = \frac{135^{\circ}}{90^{\circ}}$$

$$\Rightarrow \frac{2n-4}{n} = \frac{3}{2}$$

$$\Rightarrow 4n - 8 = 3n$$

$$\therefore n = 8$$

$$(iii) \text{ Each interior angle} = \left(\frac{2n-4}{n} \times 90 \right)^{\circ}$$

$$\text{So, } \left(\frac{2n-4}{n} \times 90 \right)^{\circ} = 175^{\circ}$$

$$\Rightarrow \frac{2n-4}{n} = \frac{175^\circ}{90^\circ}$$

$$\Rightarrow \frac{2n-4}{n} = \frac{35}{18}$$

$$\Rightarrow 36n - 72 = 35n$$

$$\therefore n = 72$$

$$\left(\text{iv} \right) \text{ Each interior angle} = \left(\frac{2n-4}{n} \times 90 \right)^\circ$$

$$\text{So, } \left(\frac{2n-4}{n} \times 90 \right)^\circ = 162^\circ$$

$$\Rightarrow \frac{2n-4}{n} = \frac{162^\circ}{90^\circ}$$

$$\Rightarrow \frac{2n-4}{n} = \frac{9}{5}$$

$$\Rightarrow 10n - 20 = 9n$$

$$\therefore n = 20$$

$$\left(\text{v} \right) \text{ Each interior angle} = \left(\frac{2n-4}{n} \times 90 \right)^\circ$$

$$\text{So, } \left(\frac{2n-4}{n} \times 90 \right)^\circ = 150^\circ$$

$$\Rightarrow \frac{2n-4}{n} = \frac{150^\circ}{90^\circ}$$

$$\Rightarrow \frac{2n-4}{n} = \frac{5}{3}$$

$$\Rightarrow 6n - 12 = 5n$$

$$\therefore n = 12$$

***** END *****