Understanding shapes-II Quadrilaterals Ex 16.1 Q18

Answer :

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

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

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

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

$\Rightarrow 18n - 36 = 16n$

$\Rightarrow 2n = 36$

$\therefore n = 18$

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

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

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

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

$\Rightarrow 4n - 8 = 3n$

$\therefore \text{n} = 8$

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

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

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

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

$\Rightarrow 36n - 72 = 35n$

$\therefore \mathrm{n} = 72$

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

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

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

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

$\Rightarrow 10n - 20 = 9n$

$\therefore n = 20$

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

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 **********