

Review Exercise 11

Q.1 Fill in the blanks

(i) In a parallelogram opposite side are

Ans: Congruent

(ii) In a parallelogram opposite angles are

Ans: Congruent

(iii) Diagonals of a parallelogram each other at a point.

Ans: Bisects

(iv) Medians of a triangle are

Ans: Concurrent

(v) Diagonals of a parallelogram divide the parallelogram into two Triangles

Ans: Congruent

Q.2 In parallelogram ABCD

(i) $\overline{AB} = \dots\dots\dots$

Ans: $\overline{AB} = \overline{DC}$

(ii) $\overline{BC} \dots\dots\dots$

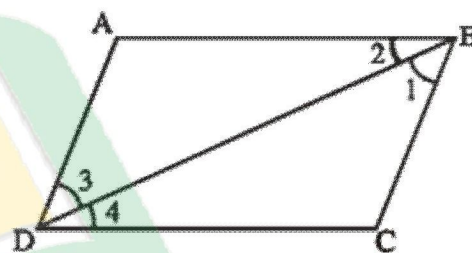
Ans: $\overline{BC} = \overline{AD}$

(iii) $m\angle 1 \cong \dots\dots\dots$

Ans: $m\angle 1 = m\angle 3$

(iv) $m\angle 2 = \dots\dots\dots$

Ans: $m\angle 2 = m\angle 4$



Q.3 Find the unknown in the figure given

Solution

$$n^\circ = 75$$

$$y^\circ = n^\circ$$

Substituting the value of n°

$$y^\circ = 75^\circ$$

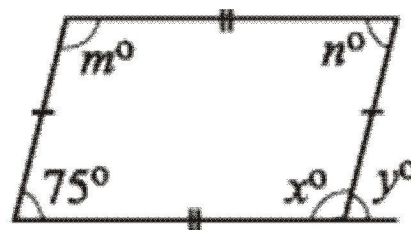
$$x^\circ + 75 = 180 \text{ Adjacent and supplementary}$$

$$x^\circ = 180 - 75$$

$$x^\circ = 105^\circ$$

$$m^\circ = x^\circ$$

$$m^\circ = 105^\circ$$



Q.4 If the given figure ABCD is a parallelogram then find x , m

$$11x^\circ = 55^\circ$$

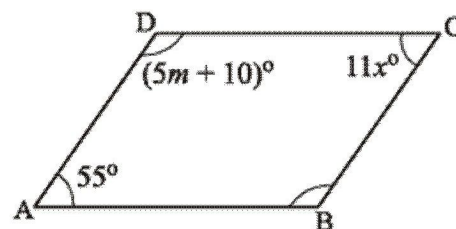
$$x^\circ = \frac{55^\circ}{11}$$

$$x^\circ = 5^\circ$$

$$\angle A + \angle B = 180^\circ$$

$$\angle B = 180^\circ - \angle A$$

$$\angle B = 180^\circ - 55 = 130^\circ$$



$$\begin{aligned}\angle B &= 130^\circ \\ \angle D + \angle C &= 180^\circ \\ 5m + 10^\circ + 55^\circ &= 180^\circ \\ 5m + 65^\circ &= 180^\circ \\ 5m &= 180^\circ - 65^\circ \\ 5m &= 115^\circ\end{aligned}$$

$$m = \frac{115^\circ}{5^\circ}$$

$$m = 23^\circ$$

Q.5 The given figure $\angle MNP$ is a parallelogram finds the value of m, n

$$4m + n = 10 \dots\dots\dots (i)$$

In parallelogram opposite sides are congruent $8m - 4n = 8 \dots (ii)$

Multiply 4 with equation

$$4(4m + n) = 4 \times 10$$

$$16m + 4n = 40 \dots (iii)$$

Adding equation (ii) and (iv)

$$8m - \cancel{4n} = 8$$

$$16m + \cancel{4n} = 40$$

$$24m = 48$$

$$m = \frac{48}{24}$$

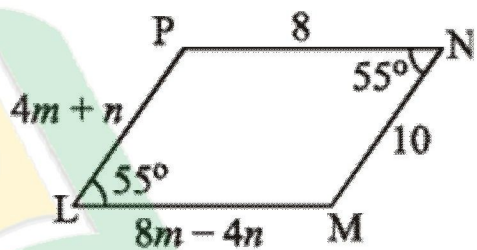
$$m = 2$$

Putting the value of m in equation (i) $4(2) + n = 10$

$$8 + n = 10$$

$$n = 10 - 8$$

$$n = 2$$



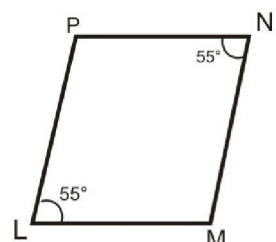
Q.6 In the equation 5, sum of the opposite angles of the parallelogram in 110°

$$\angle L + \angle M = 180$$

$$55^\circ + \angle M = 180^\circ$$

$$\angle M = 180^\circ - 55^\circ$$

$$\angle M = 125^\circ$$



$\angle P = \angle M$ opposite angles are congruent in parallelogram

$\angle P = 125^\circ$

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Report any mistake at freeilm786@gmail.com

