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) $m\overline{AB} = \ldots\ldots\ldots$

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

(ii) $m\overline{BC}\ldots\ldots\ldots$

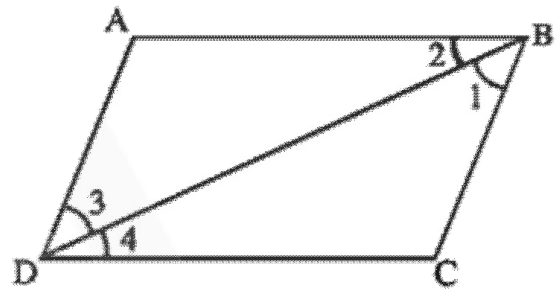
Ans: $m\overline{BC} = m\overline{AD}$

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

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

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

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



Q.3 **Find the unknown in the figure given**

Solution

$n° = 75$

$y° = n°$

Substituting the value of $n°$

$y° = 75°$

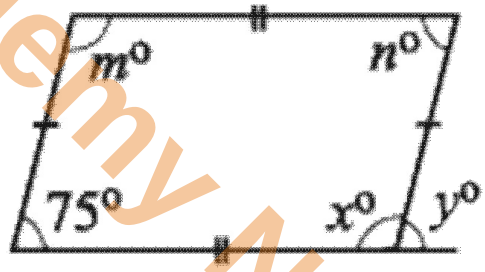
$x° + 75 = 180$ Adjacent and supplementary

$x° = 180 - 75$

$x° = 105°$

$m° = x°$

$m° = 105°$



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

$11x° = 55°$

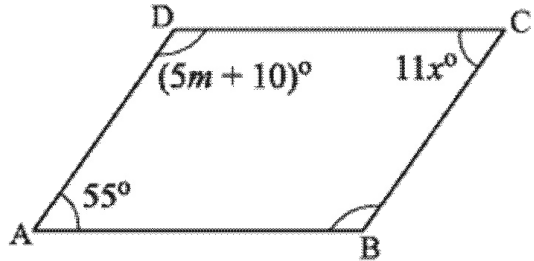
$x° = \frac{\cancel{55}^{5}}{\cancel{11}}$

$x° = 5°$

$\angle A + \angle B = 180°$

$\angle B = 180° - \angle A$

$\angle B = 180° - 55 = 125°$



$\angle B = 130°$

$\angle D + \angle C = 180°$

$5m + 10° + 55° = 180°$

$5m + 65° = 180°$

$5m = 180° - 65°$

$5m = 115°$

$$m = \frac{115°}{5°}$$

$m = 23°$

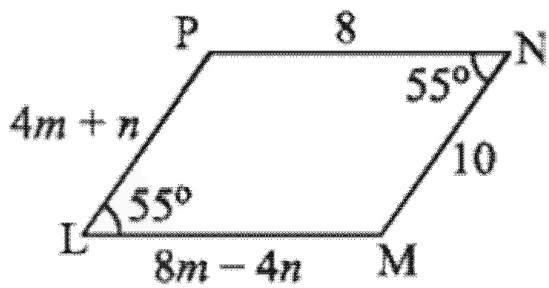
Q.5 The given figure ∠MNP is a parallelogram finds the value of m, n

4m + n = 10..... (i)

In parallelogram opposite sides are congruent 8m – 4n = 8 … (ii)

Multiply 4 with equation

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



$16m + 4n = 40$… (iii)

Adding equation (ii) and (iv)

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

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

$24m = 48$

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

$m = 2$

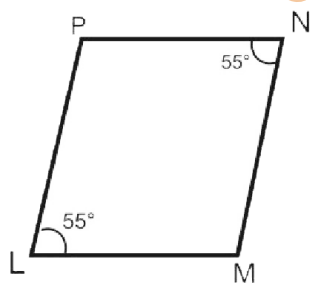
Putting the value of m in equation (i) 4(2) + n = 10

8 + n = 10

n = 10 – 8

n = 2

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



∠L + ∠M = 180

55° + ∠M = 180°

∠M = 180° - 55°

∠M = 125°

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

$\angle P = 125°$