R   S

Since NM || PQ and PT is a transversal, we have

$$\angle QPT + \angle PTM = 180°$$ (Interior angles)

$$100° + \angle PTM = 180°$$

$\Rightarrow$ $$\angle PTM = 180° - 100°$$

$\Rightarrow$ $$\angle PTM = 80°$$ ...(i)

$\Rightarrow$

Again, NM || PQ and PQ || RS

$\therefore$ NM || RS

Since NM || RS and TR is a transversal, we have

$$\angle MTR + \angle TRS = 180°$$ (Interior angles)

$$\angle MTR + 110° = 180°$$

$\Rightarrow$ $$\angle MTR = 180° - 110°$$ ...(ii)

$\Rightarrow$ $$\angle MTR = 70°$$

$\Rightarrow$

Adding equations (i) and (ii), we have

$$\angle PTM + \angle MTR = 80° + 70°$$
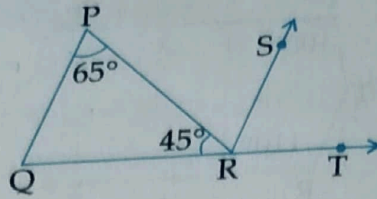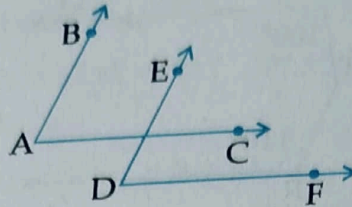
$$\angle PTR = 150°$$

$\therefore$

EXERCISE 11.2

1. In the given figure, $l \parallel m$ and n is a transversal. If $\angle c = 72°$, find the measure of each of the angles a, b, d, e, f, g and h.
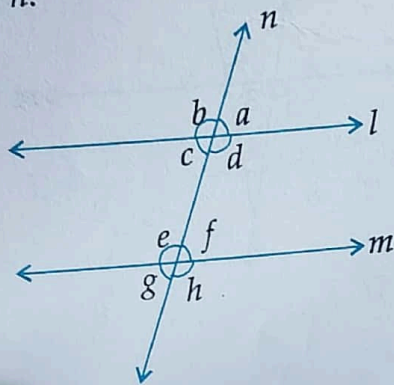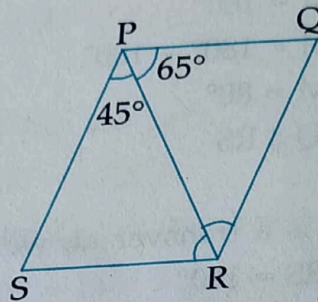
2. In the given figure, QP ∥ RS, ∠P = 65°, ∠R = 45°, then find ∠SRT.

3. In the figure given below, AB ∥ DE and AC ∥ DF, prove that ∠BAC = ∠EDF.

4. In the given figure, PQ ∥ SR and SP ∥ RQ. If ∠QPR = 65° and ∠SPR = 45°, find ∠SRQ

5. In the given figure, BC ∥ AD. Find the measures of ∠x, ∠y and ∠z.
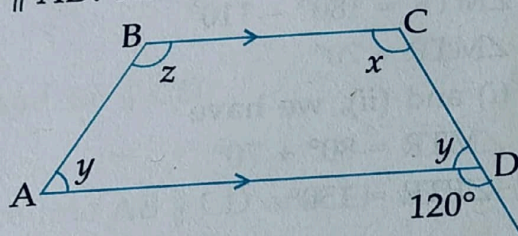
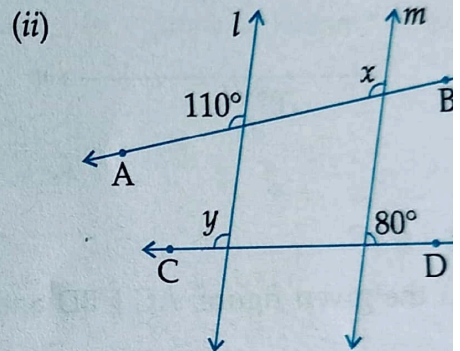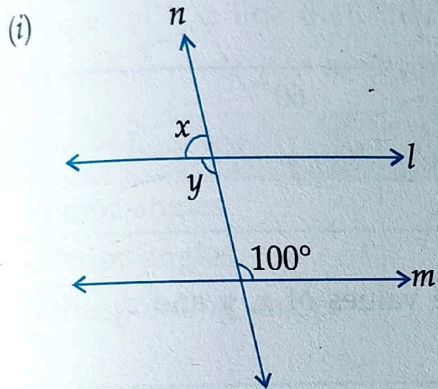6. In the given figure, l ∥ m and n is a transversal. If ∠1 = 80° and ∠5 = 100°, find th measures of ∠2, ∠3 and ∠4.
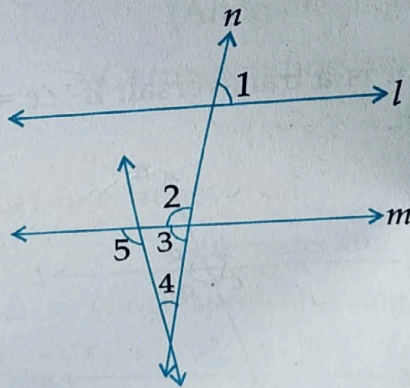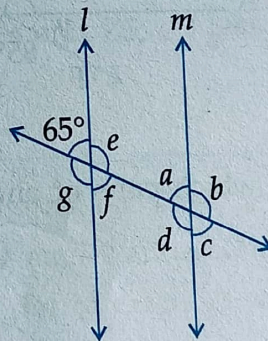
7. In the given figure, BC ∥ DE. Find the values of x and y.
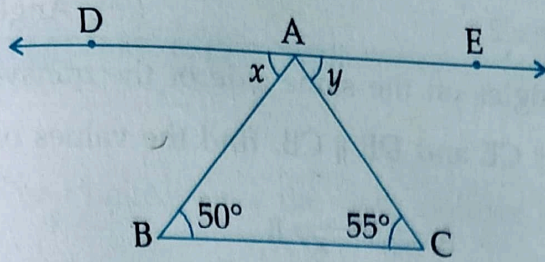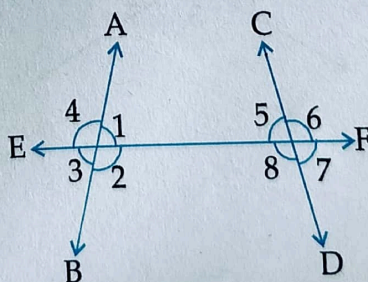

8. In the given figure, PQ ∥ RS, find the measure of ∠LRM.
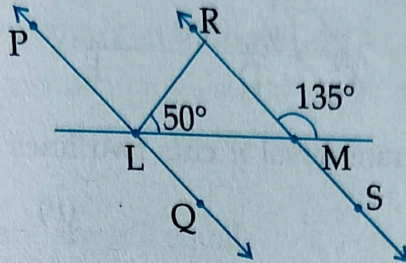
9. In each of the following figures, l ∥ m, find the values of x and y.

(i)

(ii)
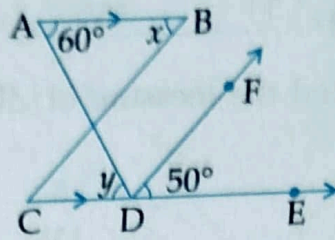

10. In the given figure, l ∥ m, find the unknown angles.

11. Using the given figure, name the following angles :
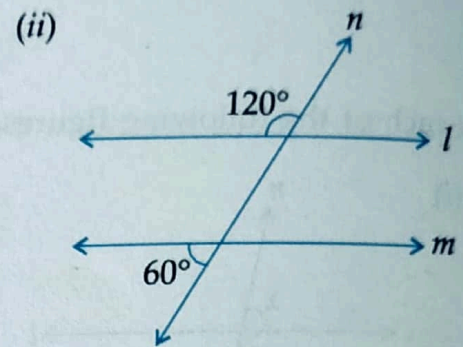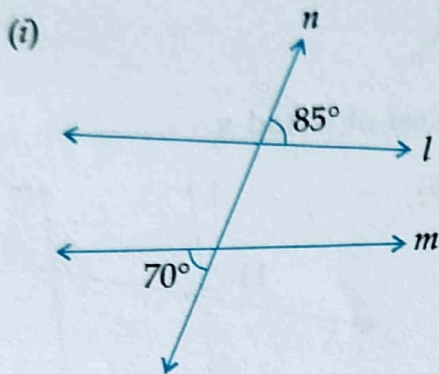
(i) Corresponding angles

(ii) Alternate interior angles

(iii) Alternate angle of $\angle 2$

(iv) Angle corresponding to $\angle 7$

(v) Pairs of interior angles on the same side of the transversal.

12. In the given figure AB || CE and DF || CB, find the values of x and y.

13. In the following figures, a transversal n cuts two lines l and m.

(i)

(ii)

Is l || m?

14. In the given figure, AC || BD and AE || BF. Find the values of x, y and z.
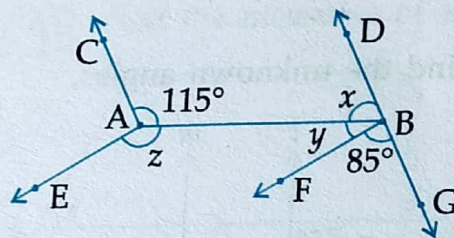
15. In the adjoining figure, indicate which pairs of angles are :

(i) linear pairs of angles

(ii) vertically opposite angles