

Jender Heart High School, Sector-33B chd.

Class: VII

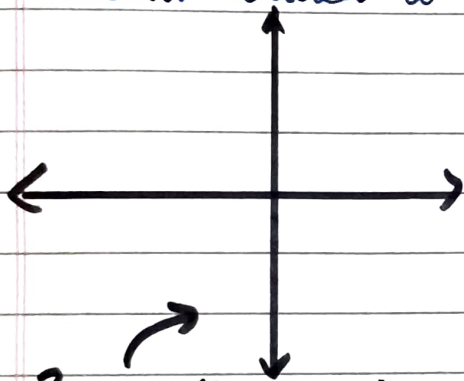
Teacher: *Deepa*

Subject: Mathematics

Topic: Chapter - 17: Lines and angles

Following topics will be covered in this chapter:

- Perpendicular lines
- Parallel lines
- Transversal
- Result related to parallel line and transversal.

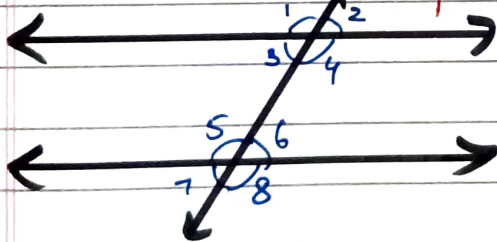


Perpendicular lines



Parallel lines

Result related to parallel lines and transversal line:



(i) Interior alternate angles
 $\angle 3 = \angle 6$, $\angle 4 = \angle 5$

(ii) Exterior alternate angles
 $\angle 1 = \angle 8$, $\angle 2 = \angle 7$

(iii) Corresponding angles

$\angle 1 = \angle 5$, $\angle 3 = \angle 7$, $\angle 2 = \angle 6$, $\angle 4 = \angle 8$

(iv) Co-interior angles

$\angle 3 + \angle 5 = 180^\circ$, $\angle 4 + \angle 6 = 180^\circ$

They will be asked to learn the above result and then apply them in the questions

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Subject: Mathematics

Topic: Chapter - 17

Exercise - 17C

classmate

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Teacher: Deepali

Sol'n 3 (iii)

$$z^\circ = 40^\circ \text{ (Vertically opp. } \angle\text{s)}$$

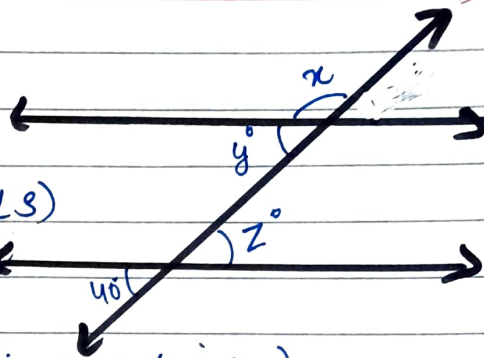
$$y^\circ = 40^\circ \text{ (Alternate exterior angle)}$$

$$x + y = 180^\circ \text{ (linear pair)}$$

$$x + 40^\circ = 180^\circ$$

$$x = 180^\circ - 40^\circ$$

$$x = 140^\circ$$



Sol'n 5

$AB \parallel CD$

$\Rightarrow$

$$\angle BAD + \angle ADC = 180^\circ$$

(Co-interior angle)

$$3x + 15^\circ + 2x + 45^\circ = 180^\circ$$

$$5x + 60^\circ = 180^\circ$$

$$5x = 180^\circ - 60^\circ$$

$$5x = 120^\circ$$

$$x = \frac{120^\circ}{5} = 24^\circ$$

$$\Rightarrow \angle BAD = 3x + 15^\circ$$

$$= 3 \times 24^\circ + 15^\circ$$

$$= 72^\circ + 15^\circ$$

$$= 87^\circ$$

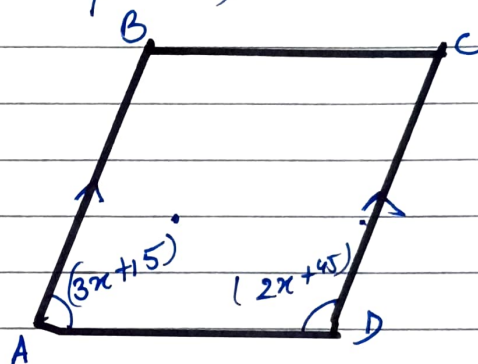
and

$$\angle ADC = 2x + 45^\circ$$

$$= 2 \times 24^\circ + 45^\circ$$

$$= 48^\circ + 45^\circ$$

$$= 93^\circ$$



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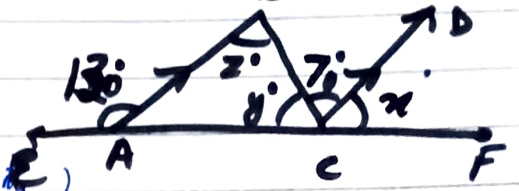
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Teacher: Dr. Pti

Soln 8 (ii)

$$z^\circ + y^\circ = 130^\circ$$

(Exterior angle property)



$$\angle BAC = 180^\circ - 130^\circ \text{ (linear pair)}$$

$$\angle BAC = 50^\circ$$

$$\angle BCF = \angle BAC \text{ (Alternate interior angle)}$$

$$x^\circ = 50^\circ$$

$$x + 70^\circ + y^\circ = 180^\circ \text{ (Straight line angles)}$$

$$50^\circ + 70^\circ + y^\circ = 180^\circ$$

$$y = 180^\circ - 120^\circ$$

$$y = 60^\circ$$

In $\triangle ABC$

$$\angle ABC + \angle ACB + \angle BAC = 180^\circ \text{ (angle sum property)}$$

$$z^\circ + 60^\circ + \angle BAC = 180^\circ$$

$$z^\circ + 60^\circ + 50^\circ = 180^\circ$$

$$z^\circ = 180^\circ - 110^\circ$$

$$\boxed{z = 70^\circ}$$

