

Tender Heart High School, Sec.-33B Chd.

Class: VII

Teacher: Deepu

Subject: Mathematics

13.05.24

Topic: Chapter-16: Fundamental concepts of Geometry
Chapter-17: Lines and angles

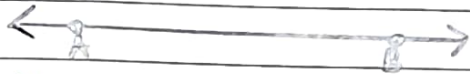
The following topics will be covered in this week.

Line: A line has no end points and can be extended on both the sides

Ray: It has only one end point and moves in one direction

Line segment: It has two end points and has a definite length

Line



Line AB or $\overleftrightarrow{AB}$

Ray



Ray CD or $\overrightarrow{CD}$

Line segment

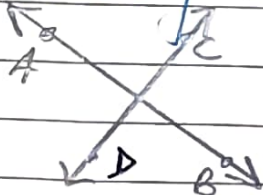


Line segment EF or EF

Collinear points



Intersecting line



$\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ are two intersecting lines.

Parallel line



$\overleftrightarrow{EF}$ and $\overleftrightarrow{GH}$ are parallel lines.



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Angles: Two rays having the same initial point is called an angle.

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Zero ($= 0^\circ$)	acute (b/w 0° and 90°)	Right angle (90°)	obtuse (b/w 90° and 180°)	Straight (180°)	Reflex (b/w 180° & 360°)
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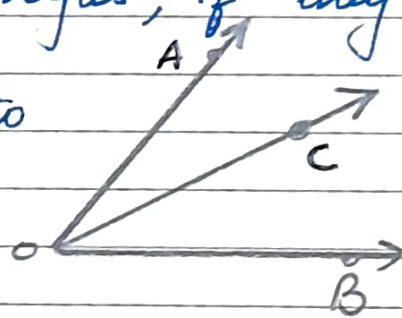
Complementary angles: Two angles are said to be Complementary angle if the Sum of them is 90° .

Supplementary angles: Two angles are said to be Supplementary, if the Sum of them is 180° .

$$1^\circ = 60' \quad \text{and} \quad 1' = 60''$$

Adjacent angles: Two angles are said to be adjacent angles, if they have common vertex.

$\angle AOC$ and $\angle BOC$ are said to be adjacent angles

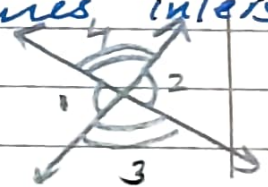


Linear pair of angles: A pair of adjacent angles if they form 180° angle with each other.

Vertically opposite angles: When two lines intersect each other then the opposite angles are Vertically opposite angles.

$$\angle 1 = \angle 2$$

$$\angle 3 = \angle 4$$



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Exercise - 17A :

Soln 8 : Complementary angles

$$(i) 46^\circ \rightarrow 90^\circ - 46^\circ = 44^\circ$$

$$(iii) \frac{3}{5} \text{ of a right angle} = \frac{3}{5} \times 90^\circ = 54^\circ = 90^\circ - 36^\circ$$

Supplementary angles

$$\text{Soln-9) (ii) } 105^\circ = 180^\circ - 105^\circ = 75^\circ$$

$$\begin{aligned} v) 62^\circ 56' &= 179^\circ 60' - 62^\circ 56' \\ &= 117^\circ 04' \end{aligned}$$

Soln-17) Let the angle be x , then the other angle be $x + 20^\circ$

A.T.O

$$x + x + 20^\circ = 90^\circ$$

$$2x = 90^\circ - 20^\circ$$

$$= 70^\circ$$

$$x = 35^\circ$$

$\Rightarrow$ Complementary angles are 35° and 55°

