

Key Notes

Chapter – 5 Lines and Angles

- We recall that
 - (i) A line-segment has two end points.
 - (ii) A ray has only one end point (its vertex); and
 - (iii) A line has no end points on either side.
- An angle is formed when two lines (or rays or line-segments) meet.

Pairs of Angles	Condition
Two complementary angles	Measures add up to 90°
Two supplementary angles	Measures add up to 180°
Two adjacent angles	Have a common vertex and a common arm but no common interior.
Linear pair	Adjacent and supplementary

- When two lines l and m meet, we say they intersect; the meeting point is called the point of intersection.
- When lines drawn on a sheet of paper do not meet, however far produced, we call them to be *parallel* lines.
- Point:** A point name a location.
- Line:** A line is perfectly straight and extends forever in both direction.
- Line segment:** A line segment is the part of a line between two points.
- Ray:** A ray is part of a line that starts at one point and extends forever in one direction.
- Intersecting lines:** Two or more lines that have one and only one point in common. The common point where all the intersecting lines meet is called the point of intersection.
- Transversal:** A line intersects two or more lines that lie in the same plane in distinct points.
- Parallel lines:** Two lines on a plane that never meet. They are always the same distance apart.
- Complementary Angles:** Two angles whose measures add to 90° .
- Supplementary Angles:** Two angles whose measures add to 180° .
- Adjacent Angles:** Two angles have a common vertex and a common arm but no common interior points.

Key Notes

- **Linear pairs:** A pair of adjacent angles whose non-common sides are opposite rays.
- **Vertically Opposite Angles:** Two angles formed by two intersecting lines have common arm.
- **Angles made by Transversal:** When two lines are intersecting by a transversal, eight angles are formed.
- **Transversal of Parallel Lines:** If two parallel lines are intersected by a transversal, each pair of:
 - Corresponding angles are congruent.
 - Alternate interior angles are congruent.
 - Alternate exterior angles are congruent.
- If the transversal is perpendicular to the parallel lines, all of the angles formed are congruent to 90° angles.