Class 9
Important Formulas

Chapter 5 - Euclid Geometry

S.no	Terms	Descriptions
1	**Euclid**	Euclid a Greek mathematician is called the Father of Geometry
2	**Euclid Geometry definition**	1) A point is that which has no part 2) A line is breath less and has length only 3) The end of a line is points 4) A straight line is a line which lies evenly with the points on itself 5) A surface is that which has length and breadth only 6) The edges of a surface are lines The definitions of line, point, plane explained by Euclid is not accepted by the Mathematician. So these terms are taken as undefined
3	Axioms or Postulates	Axioms or Postulates are assumptions which are obvious universal truths. They are not proved
4	Theorems	They are statements which are proved using axioms/postulates, definition, previously proved statement and deductive reasoning
5	Euclid Axioms	1) Things which are equal to same things are equal to one another If $x=z$, $y=z$ then $x=y$ 2) If equals are added to equals, the wholes are equal $x=y$ => $x+z=y+z$ 3) If equals are subtracted from equals, the remainders are equal $X=y$ => $x-z=y-z$ 4) Things which coincide with one another are equal to one another

		5) The whole is greater than the part 6) Things which are double of the same things are equal to one another 7) Things which are halves of the same things are equal to one another 8) If first thing is greater than second and second is greater than third, then first is greater than third
6	Euclid Postulates	1) A straight line may be drawn from one point to another point 2) A terminated line can be produced indefinitely 3) A circle can be drawn with any center and any radius 4) All right angles are equal to one another 5) If a straight line falling on two straight lines makes the interior angles on the same side of it taken together less than two right angles, then the straight lines if produced indefinitely meet on that side on which the angles are less than the two right angles
7	Playfair Axiom	For every line l and for every point P not lying on the line l, there exists a unique line m passing through P and Parallel to l