Maths formula Sheet

Congruence of Triangles

1. Two figure are congruent, if they are of the same shape and of the same size.
2. Two line segments are congruent iff their lengths are equal.
3. Two angle are congruent iff they are of the same measure.
4. Two circles of the same radii are congruent.
5. Two squares of the same radii are congruent.
6. If two triangles ABC are DEF are congruent under the correspondence

   $A \leftrightarrow D$, $B \leftrightarrow E$ and $C \leftrightarrow F$, then we write $\Delta ABC \cong \Delta DEF$ of $\Delta ABC \leftrightarrow \Delta DEF$.
7. Two triangles are congruent if two sides and the included angle of one are r equal to the corresponding sides and the included angle of the other triangle (SAS congruent criterion).
8. Two triangles are congruent if two angles and the included side of one triangle are equal to the corresponding two angles and the included side of the other triangle. (ASA congruent criterion)
9. If any two angles and non-included side of one triangle are equal to the corresponding angles and side of another triangle, then the triangles are congruent (AAS congruence criterion)
10. If three sides of one triangle are equal to three of the other triangle, then the two triangles are congruent (SSS congruence criterion)

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11. If in two right triangles, hypotenuse and one side of a triangle are equal to the hypotenuse and one side of other triangle, then the two triangle are congruent (RHS congruence criterion)

12. Angles opposite to equal sides of a triangle are equal.

13. Sides opposite to equal angles of a triangle are equal.

14. Each angle of an equilateral triangles is 60^0.

15. If the altitude from one vertex of a triangle bisects the opposite side, then the triangle is isosceles.

16. In an isosceles triangle altitude from the vertex bisects the base.

17. If the bisector of the vertical angle of a triangle bisects the base of the triangle, then the triangle is isosceles.

18. If the altitudes of a triangles are equal, then it is equilateral.

19. In a triangle, angle opposite to the longer side id larger.

20. Ina triangle, side opposite to the longer angle is longer.

21. Sum of any two sides of a triangle is greater than the third side.

Of all line segments that can be drawn to a given line, from a point, not lying on it, the perpendicular line segment is the shortest.