



MATHS

NCERT - NCERT

MATHEMATICS(HINGLISH)

NCERT THEOREMS

Theorem 5 1

1. Theorem 5.1 : Two distinct lines cannot have more than one point in common



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Theorem 6 1

1. Theorem 6.1 : If two lines intersect each other, then the vertically opposite angles are equal.



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Theorem 6 2

1. Theorem 6.2 : If a transversal intersects two parallel lines, then each pair of alternate interior angles is equal.



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Theorem 6 3

1. Theorem 6.3 : If a transversal intersects two lines such that a pair of alternate interior angles is equal, then the two lines are parallel.



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Theorem 6 4

1. Theorem 6.4 : If a transversal intersects two parallel lines, then each pair of interior angles on the same side of the transversal is supplementary.



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Theorem 6 5

1. Theorem 6.5 : If a transversal intersects two lines such that a pair of interior angles on the same side of the transversal is supplementary, then the two lines are parallel.



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Theorem 6 6

1. Theorem 6.6 : Lines which are parallel to the same line are parallel to each other.



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Theorem 6 7

1. Theorem 6.7 : The sum of the angles of a triangle is 180



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Theorem 6 8

1. Theorem 6.8 : If a side of a triangle is produced, then the exterior angle so formed is equal to the sum of the two interior opposite angles.



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Theorem 7 1

1. Angle-Side-Angle (ASA) Congruence - 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.



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Theorem 7 2

1. Theorem 7.2 : Angles opposite to equal sides of an isosceles triangle are equal.



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Theorem 7 3

1. Theorem 7.3 : The sides opposite to equal angles of a triangle are equal.



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Theorem 7 4

1. Theorem 7.4 (SSS congruence rule) : If three sides of one triangle are equal to the three

sides of another triangle, then the two triangles are congruent.



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Theorem 7 5

1. Two right triangles are congruent if the hypotenuse and one side of one triangle are respectively equal to the hypotenuse and one side of the other triangle.



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Theorem 7 6

1. Theorem 7.6 : If two sides of a triangle are unequal, the angle opposite to the longer side is larger (or greater)



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Theorem 7 7

1. Theorem 7.7 : In any triangle, the side opposite to the larger (greater) angle is longer



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Theorem 7 8

1. Theorem 7.8 : The sum of any two sides of a triangle is greater than the third side.



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Theorem 8 1

1. Prove that a diagonal of a parallelogram divides it into two congruent triangles.



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Theorem 8 2

1. Prove that In a parallelogram, opposite sides are equal.



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Theorem 8 3

1. Theorem 8.3 : If each pair of opposite sides of a quadrilateral is equal, then it is a parallelogram.



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Theorem 8 4

1. Prove that in a parallelogram, opposite angles are equal.



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Theorem 8 5

1. Theorem 8.5 : If in a quadrilateral, each pair of opposite angles is equal, then it is a parallelogram.



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Theorem 8 6

1. Prove that the diagonals of a parallelogram bisect each other.



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Theorem 8 7

1. Prove that If the diagonals of a quadrilateral bisect each other, then it is a parallelogram.



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Theorem 8 8

1. Prove that a quadrilateral is a parallelogram, if its one pair of opposite sides are equal and parallel.



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Theorem 8.9

1. prove that the line segment joining the mid-points of two sides of a triangle is parallel to the third side.



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Theorem 8 10

1. Theorem 8.10 : The line drawn through the mid-point of one side of a triangle, parallel to another side bisects the third side.



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Theorem 9 1

1. Theorem 9.1 : Parallelograms on the same base and between the same parallels are equal in area.



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Theorem 9 2

1. Triangles on the same base and between the same parallel are equal in area.



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Theorem 9 3

1. Theorem 9.3 : Two triangles having the same base (or equal bases) and equal areas lie between the same parallels.



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Theorem 10 1

1. State and prove that :

Theorem 10.1 : Equal chords of a circle subtend

equal angles at the centre



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Theorem 10 2

1. State and prove that:

Theorem 10.2 : If the angles subtended by the chords of a circle at the centre are equal, then the chords are equal.



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Theorem 10 3

1. Theorem 10.3 : The perpendicular from the centre of a circle to a chord bisects the chord.



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Theorem 10 4

1. Theorem 10.4 : The line drawn through the centre of a circle to bisect a chord is perpendicular to the chord.



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Theorem 10 5

1. Theorem 10.5 : There is one and only one circle passing through three given non-collinear points.



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Theorem 10 6

1. Theorem 10.6 : Equal chords of a circle (or of congruent circles) are equidistant from the centre (or centres).



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Theorem 10 7

1. Chords equidistant from the center of a circle are equal in length.



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Theorem 10 8

1. Theorem 10.8 : The angle subtended by an arc at the centre is double the angle subtended by it at any point on the remaining part of the circle.



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Theorem 10 9

1. Angle in the same segment of a circle are equal.



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Theorem 10 10

1. If a line segment joining two points subtends equal angles at two other points lying on the same side of the line segment; the four points are concyclic.



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Theorem 10 11

1. Theorem 10.11 : The sum of either pair of opposite angles of a cyclic quadrilateral is 180° .



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Theorem 10 12

1. Theorem 10.12 : If the sum of a pair of opposite angles of a quadrilateral is 180° , the quadrilateral is cyclic.



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