

CLASS 7

MATHS

REVISION NOTES

Revision Notes for Class 7 Maths Chapter 7: A Tale of Three Intersecting Lines

Quick revision notes summarizing all key concepts from Class 7 Maths Chapter 7 "A Tale of Three Intersecting Lines".

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Three **collinear** points (lying on a straight line) cannot form a triangle, since they enclose no area.

Triangle Inequality: a triangle exists only if the sum of any two sides is strictly greater than the third side. It's enough to check that the two smaller sides sum to more than the largest side.

If two sides are a and b ($a < b$), the third side c must satisfy $(b-a) < c < (a+b)$.

An **equilateral triangle** (all sides equal) always exists for any positive side length.

SSS construction: draw the base, then draw arcs of the other two side lengths from each end of the base; their intersection is the third vertex.

SAS construction: given two sides and the included angle, draw one side, construct the angle at one end, then mark the second side along the new arm.

ASA construction: given two angles and the included side, draw the side, then construct both angles at its ends; their arms meet at the third vertex.

Angle Sum Property: the three interior angles of any triangle always sum to 180° , regardless of side lengths.

A second angle can form a valid triangle with a first angle only if the second angle is strictly less than $(180^\circ - \text{first angle})$.

Exterior Angle Theorem: an exterior angle of a triangle equals the sum of the two remote (non-adjacent) interior angles.

The **altitude** from a vertex is the perpendicular segment to the opposite side (or its extension); in an obtuse triangle, the altitude's foot may fall outside the triangle.

By sides: equilateral (3 equal sides), isosceles (2 equal sides), scalene (no equal sides). **By angles:** acute (all angles $< 90^\circ$), right (one angle $= 90^\circ$), obtuse (one angle $> 90^\circ$). A triangle can never have two right or two obtuse angles.

An equilateral triangle's angles are always exactly 60° each, so it can never be right-angled or obtuse-angled.

NCERT Solutions: [Class 7 Maths Chapter 7](#)

Extra Questions: [Class 7 Maths Chapter 7](#)

For the full chapter, see the [Class 7 Maths book page](#) and the [Class 7 Maths Formulas Handbook](#).