

List of Theorems and Postulates

This is a list of the names of the theorems and postulates common to Geometry classes. These are listed in the order in which they are presented in a typical Geometry class. Furthermore, this list includes only those theorems and postulates that are typically used in geometric proofs.

Arithmetic

Addition (etc.) Property of Equality
Transitivity
Reflexive
Symmetry
Distributive Property of Equality

Basics

Segment Addition Property (SAP)
Angle Addition Property (AAP)

Angles

Congruent Supplements Theorem
Congruent Complements Theorem

Parallel Lines

(Each of these has a converse)

Same-side Interior Angles Postulate (SIAP)
Alternate Interior Angles Postulate (AIAP)
Alternate Exterior Angles Postulate (AEAP)
Corresponding Angles Theorem (CAT)
Two lines \parallel to the same line are \parallel to each other
Two lines \perp to the same line are \parallel to each other
A line \perp to one of two \parallel lines is also \perp to the other

Parallel Lines and Triangles

Triangle Sum Theorem
Triangle Exterior Angle Theorem

Congruent Triangles

Third Angle Theorem (TAT)
Side-Side-Side Postulate (SSS)
Side-Angle-Side Postulate (SAS)
Angle-Side-Angle Postulate (ASA)
Angle-Angle-Side Theorem (AAS)
Hypotenuse-Leg Theorem (HL)
Corresponding Parts of \cong Triangles are \cong (CPCTC)

Additional Triangles

(Each of these has a converse)

Isosceles Triangle Theorem (ITT)
A line that bisects the vertex of an isosceles Δ is the perpendicular bisector of the base
Triangle Midsegment Theorem
Hinge Theorem (SAS Inequality Theorem)

Bisectors

Perpendicular Bisector Theorem (PBT)
Angle Bisector Theorem (ABT)

Misc

Trapezoid Midsegment Theorem

Similarity

Side-Side-Side Similarity Theorem (SSS \sim)
Side-Angle-Side Similarity Theorem (SAS \sim)
Angle-Angle Postulate (AA \sim)
Side Splitter Theorem
Triangle Angle Bisector Theorem