

Geometry Info Sheet #49

Prisms: Definitions and Terminology

Definitions

- Prism:** A polyhedron with two congruent and parallel n -sided polygonal faces (called **bases**) and n other faces (called **lateral faces**, and necessarily all parallelograms) joining the corresponding sides of the two bases; it has only flat faces—no curves—and is named by the shape of its bases
- Lateral Edge:** Any one of the edges of the lateral faces of a prism that is not an edge of either base
- Altitude:** A segment with endpoints in the planes containing the two bases of a prism and perpendicular to both
- Height:** The length of an altitude of a prism
- Right Prism:** A prism in which all of the lateral faces (sides) are rectangles; the bases are directly opposite each other and every lateral edge is an altitude
- Oblique Prism:** A prism with at least one non-rectangular lateral face; the bases, while still congruent and parallel, are not directly opposite each other; lateral edges are not altitudes
- Regular Prism:** A prism in which the bases are regular polygons
- Irregular Prism:** A prism in which the bases, while still congruent and parallel, are not regular polygons
- Right Rectangular Prism:** Also known as a **cuboid**; a box-shaped right prism with rectangles for its bases; every angle is a right angle and all six faces are rectangles
- Right Square Prism:** A right rectangular prism with squares for its bases; at least two dimensions (length or width or height) are equal
- Cube:** Also known as a **hexahedron**; a right rectangular prism in which all three dimensions (length, width, and height) are equal; all six faces are squares
- A cube is just a special case of a right square prism, which is just a special case of a right rectangular prism.
- Triangular Prism:** A three-sided prism; it has triangular bases, five faces, nine edges, and six vertices
- Pentagonal Prism:** A five-sided prism; it has pentagonal bases, seven faces, 15 edges, and 10 vertices
- Hexagonal Prism:** A six-sided prism; it has hexagonal bases, eight faces, 18 edges, and 12 vertices