Algebra and Geometry/ Polygons/ Solids

Apothem- the distance from the center to a side in a regular polygon

Area-the measure of the interior region of an enclosed 2D shape

Auxiliary Line- a line that is added to a diagram in order to help carry out a proof

Axis (Conic Sections) - the line running along the center of a cone or cylinder

Base- the side of a two dimensional figure or the face of a solid that is perpendicular to the height of the figure.

Circumscribe- to construct a circle around a polygon that passes through all of its vertices.

Circumscribed Angle-an angle formed by two tangents to a circle, drawn from one common endpoint.

Concave Polygon- a polygon with one or more interior angles greater than 180^{o}

Cone-a solid with a circular base and a single vertex.

Conic Section-intersection of a plane and a cone.

Convex Polygon- a polygon in which all diagonals are inside the polygon.

Coordinate Plane- the plane containing the "x" axis and "y" axis.

Coplanar- two lines that exist in the same plane.

Co-Vertices-the endpoints of the minor axis of an ellipse.

Cross-Section- the intersection of a solid and a plane.

Cube- a six sided solid with all sides congruent squares.

Cylinder- a solid with two congruent circular bases that lie in parallel planes.

Diagonal- a line segment connecting two non-adjacent vertices of a polygon.

Edge- a line segment where two faces of a solid meet.

Ellipse- a conic section that can be defined with two foci.

Endpoint- a point at an end of a line segment or ray.

Exterior Angle (Polygon) - angle formed by a side of a polygon and the extension of its adjacent side.

Face- a flat surface of a polyhedron

Inscribed Polygon- an angle with its vertex on the circle and sides that are chords of the circle.

Interior Angle (Polygon)-an angle formed by two adjacent sides of a figure.

Isosceles Trapezoid-a trapezoid with legs of equal length and two pairs of congruent base angles.

Kite-a quadrilateral with two pairs of congruent sides and with opposite sides that are not congruent

Lateral Face- any face other than the base or bases.

Line- one dimensional figure passing through two points.

Line of Symmetry-a line that divides a figure into congruent halves.

Line Segment- a part of a line with two endpoints.

Midpoint-a point equidistant from the endpoints

Mid-segment-a segment that connects the midpoints of two sides of a polygon.

Net- a two dimensional flat figure that can be folded up to become a surface of a solid.

Oblique Solid- a solid with a base that are not at a right angle to the lateral surfaces.

Parabola: a conic section most simply described by an equation of the form $y = ax^2$.

Parallel (Lines): lines on the same plane that never intersect. Parallel lines have equal slopes.

Parallel (Planes): planes that never intersect.

Parallelogram: a quadrilateral in which each pair of opposite sides are parallel and equal in length.

Perimeter: the distance around a two-dimensional shape.

Perpendicular Lines: lines that intersect at 90^o angles.

Plane: a two-dimensional figure that continues forever in both directions.

Point: occupies no volume or space. It is a location and is represented by a dot.

Polygon: a closed figure formed by three or more line segments connected end to end. When all of the sides of a polygon have the same length and all of the interior angles have the same measure, the figure is a regular polygon.

Polyhedron: a solid whose surfaces are polygons. Prisms, boxes, and pyramids are polyhedrons, while spheres or cones are not since they have curved surfaces.

Prism: a solid with two identical faces called bases that lie in parallel planes. A triangular prism has two identical triangular bases, a rectangular prism has two identical rectangular bases, etc.

Proportion: an equation that states two ratios are equal.

Pyramid: a solid that has a base and three or more triangular faces that meet at a point above the base called the apex.

Quadratic Equation: an equation that can be written with a quadratic polynomial of one side and zero on the other side.

Quadrilateral: a polygon with four sides.

Radius (Polygon): the distance from the center of a regular polygon to a vertex.

Ratio: a quotient that compares two quantities.

Ray: a portion of a line that starts at a point and extends forever in some direction.

Rectangle: a parallelogram with four right angles.

Rectangular Prism: a prism with identical rectangular bases.

Regular Polygon: a polygon in which all sides are congruent and all interior angles are congruent.

Regular Pyramid: a pyramid in which the base is a regular polygon.

Rhombus: a parallelogram with four congruent sides.

Right Solid: a solid in which the base is at a right angle to the lateral surface.

Similar Figures: figures that have congruent angles, but may be different sizes.

Skew Lines: two lines that are not in the same plane and that never intersect.

Slope: the measure of the steepness of a line. Slope is a number calculated by dividing the rise- vertical change between any two points- by the run, or horizontal change between the same two points, with respect to a coordinate system.

Solid: a three-dimensional shape. A solid occupies space; it has volume.

Sphere: a solid with all of the points on its surface the same distance from is center.

Square: a parallelogram with four right angles and four congruent sides.

Standard form of the Equation for a Parabola: vertical parabola (opening up or down): $y - k = \frac{1}{4p}(x-h)^2$; horizontal parabola (opening left or right): $x - h = = \frac{1}{4p}(y-k)^2$

Standard form of the Equation for a Parabola Centered at the Origin: vertical parabola (opening up or down): y = $\frac{1}{4p}x^2$; horizontal parabola (opening left or right): x= $\frac{1}{4p}y^2$

Surface Area: the total area of the outside of a solid.

Symmetrical: a descriptive term for a figure that maps onto itself after undergoing a transformation.

Trapezoid: a quadrilateral with just one pair of parallel sides.

Volume: the amount of space a solid occupies