

PLANE GEOMETRY

PRAXIS FLASHCARD #88

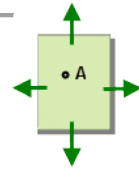
GEOMETRY SYMBOLS

\sphericalangle	Angle	\cong	Congruent
$\sphericalangle ABC$	Angle ABC	$^\circ$	Degree
\widehat{AB}	Arc AB	\parallel	Parallel
\overleftrightarrow{AB}	Line AB	\perp	Perpendicular
\overrightarrow{AB}	Ray AB	\sim	Similar
\overline{AB}	Line segment AB	\triangle	Triangle
		\square	right angle sign

PRAXIS FLASHCARD #316

POINT

A **point** is a non-dimensional location on a plane. A point is usually labeled with a capital letter of the alphabet.



PRAXIS FLASHCARD #129

LINE

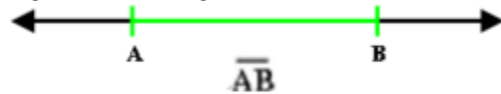
A **line** is an infinite collection of collinear points. A line has no width or depth—it has only one dimension: length. A line is named with a lowercase letter or by two points on the line. The symbol for a line is a double headed arrow. Thus, the line below is line ℓ , or \overleftrightarrow{AB}



PRAXIS FLASHCARD #130

LINE SEGMENT

A **line segment** is a portion of a line with two endpoints. The line segment is named by the two endpoints. The symbol for a line segment is a line segment:



PRAXIS FLASHCARD #136

RAY

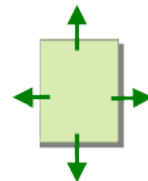
A **ray** is often mistakenly called a half line. A ray is part of a line that has an endpoint but goes infinitely in a straight line from that endpoint. Two rays that have the same endpoint form an angle. A ray is named by its endpoint and any other point on the ray. The symbol for a ray is a small ray (single headed arrow).



PRAXIS FLASHCARD #315

PLANE

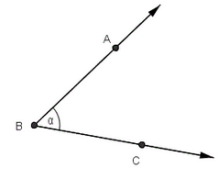
A **plane** is a two-dimensional surface. It is like a sheet of paper that has no thickness, yet it extends in all directions for width and height.



PRAXIS FLASHCARD #116

ANGLE

An **angle** is the figure formed by two rays, called the **sides** of the angle, which share a common endpoint, called the **vertex** of the angle. An angle can be named by its vertex or by naming a point on each leg with the vertex point in the middle. The angle below is Angle B or Angle ABC, also written as $\angle ABC$.



PRAXIS FLASHCARD #100

PARALLEL LINES

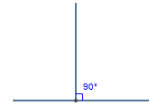
Parallel lines are lines in a plane that do not intersect or touch at any point. The lines are equidistant from each other.



PRAXIS FLASHCARD #102

PERPENDICULAR LINES

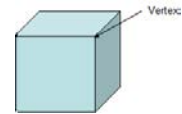
Perpendicular lines are lines that meet or intersect at 90° angles. The slope of one is the negative reciprocal of the other.



PRAXIS FLASHCARD #92

VERTEX

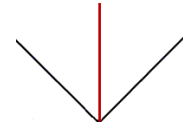
A **vertex** (plural: vertices) is a point that describes the corners or intersections of geometric shapes.



PRAXIS FLASHCARD #239

ANGLE BISECTOR

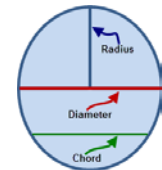
An **angle bisector** is a ray (or line or line segment) that divides one angle into two angles of equal measure. In other words, an angle bisector cuts an angle in half.



PRAXIS FLASHCARD #122, #123, & #324

CHORD OF A CIRCLE; DIAMETER; RADIUS

A **chord** of a circle is a line segment whose endpoints are on the circle. The **diameter** of a circle is the longest chord in a circle. It is a line segment that passes through the center of the circle and whose endpoints are on the circle. The symbol for the diameter is \varnothing , which is made on a Windows computer by ALT+8960. A **radius** is a line segment that goes from the center of a circle to any point on the circumference of the circle. The measure of the radius is half the diameter. Often, the term radius is also used to denote the measure of the radius line segment.



PRAXIS FLASHCARD #91

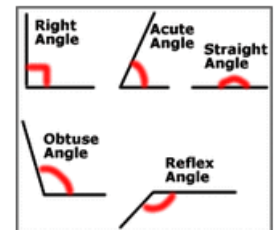
PI

The number π is a mathematical constant that is the ratio of a circle's circumference to its diameter. The constant, sometimes written π , is an irrational number *approximately* equal to 3.14159 or $22/7$. (i.e., a circle's diameter can be wrapped around its circumference π times – 3 times and a little bit more.)

PRAXIS FLASHCARD #93, #94, #95, #232, & #397

ANGLE SIZES

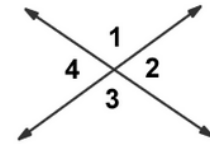
A **straight angle** is an angle that measures 180° . A **right angle** is an angle that measures 90° . An **obtuse angle** is an angle that measures between 90° - 180° . An **acute angle** is an angle that measures less than 90° . A **reflex angle** is an angle measured in a clockwise direction as opposed to the normal counter-clockwise direction.



PRAXIS FLASHCARD #355

VERTICAL ANGLES

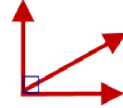
When two lines intersect, they form four angles. The two angles opposite each other are called **vertical angles**. Vertical angles are always the same measure. In the drawing to the right, Angle 1 and Angle 3 are vertical angles. Angle 2 and Angle 4 are vertical angles.



PRAXIS FLASHCARD #96

COMPLEMENTARY ANGLES

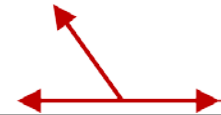
Complementary angles are two angles whose measure adds to 90° .



PRAXIS FLASHCARD #97

SUPPLEMENTARY ANGLES

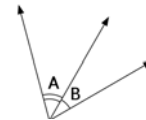
Supplementary angles are two angles whose measure adds to 180° .



PRAXIS FLASHCARD #237

ADJACENT ANGLES

Two angles are **adjacent angles** if they share a common vertex, they share a common side, AND they do not share any interior points. In other words two angles that are side-by-side are adjacent.



PRAXIS FLASHCARD #109

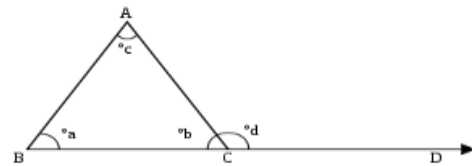
SURFACE AREA

Surface area is the total area of the faces and curved surfaces of a solid figure.

PRAXIS FLASHCARD #128

EXTERIOR ANGLE

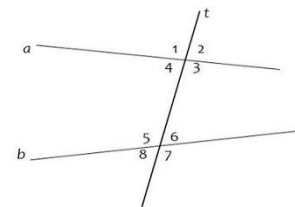
An **exterior angle** is an angle on the outside of a polygon that is formed by extending the side of the polygon. In the diagram to the right, $\angle d$ is an exterior angle:



PRAXIS FLASHCARD #234 & #352

TRANSVERSAL LINES & CORRESPONDING ANGLES

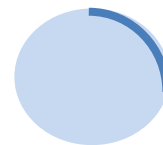
A **transversal** is a line that crosses two or more other lines. A transversal of two lines forms eight angles that are often used in geometrical. When a transversal line crosses two other lines, it forms eight angles that are often used in geometrical problems. Corresponding angles are angles that are in the same position on each of the lines. In the figure to the right, Angle 2 corresponds to Angle 6.



PRAXIS FLASHCARD #240

ARC

An **arc** is a section of a circle. It is a set of points all equidistant from a center point. Arcs of the same size cut equal measured central angles in the circle.



PRAXIS FLASHCARD #252

COPLANAR

Coplanar describes two-dimensional figures that are on the same plane.

PRAXIS FLASHCARD #253

COLLINEAR

Collinear describes two or more points that are on the same line (they are in a straight row or lined up).

PRAXIS FLASHCARD #289

INTERSECTING LINES

To lines on the same plane that share a single point are said to be **intersecting lines**.

