

GEOMETRY CHAPTER 1 STUDY GUIDE

- Vocabulary
- Postulates
- Midpoint/Distance
- Angles (adding/bisecting)
- Polygons
- Perimeter/Area

1.1

point: -has no dimension
-represented by a dot

line: -has no start or finish
-through only 2 points, there is exactly one line

plane: -has 2 dimensions
-through only 3 non-collinear points, there is exactly one plane

collinear points: points on same line

coplanar points: - points on same plane

line segment: -have two end points

ray: - has one end point
-goes on in one direction

opposite rays: -collinear rays that share 1 endpoint

- Planes intersect \rightarrow lines
- Lines intersect \rightarrow point
- Planes & lines intersect \rightarrow point
*but intersection of a line and plane that lies directly on the plane \rightarrow All points on line

1.2

Postulate 1- RULER POSTULATE

The distance between points A and B is the absolute value of the difference of the coordinates of A and B. (You can measure any line segment)

Postulate 2- SEGMENT ADDITION POSTULATE

If B is between A and C, then $AB + BC = AC$

If $AB + BC = AC$, then B is between A and C.

Congruent Segments: Line segments that have the same length

1.3

Midpoint: point that divides a segment into 2 congruent segments.

Segment Bisector: point, line segment, plane, that intersects a segment at its midpoint.

1.4

Angle: two rays that share an end point

Postulate 3- PROTRACTOR POSTULATE

*any angle can be measured by a protractor

Postulate 4- ANGLE ADDITION POSTULATE

If P is in the interior of $\angle RST$, $m\angle RST = m\angle RSP + m\angle PST$

Congruent angles: angles with the same measurement.

Angle Bisector: ray that divides 1 angle into two congruent angles.

1.5

Complementary Angles: 2 angles sum = 90 degrees

Supplementary Angles: 2 angles sum = 180 degrees

Adjacent Angles: 2 angles that share a common vertex and side.

Linear Pair: non-common sides are opposite rays.

- Linear pair made up of supplementary angles and adjacent,

Vertical Angles: sides form two pairs of opposite rays.

1.6

P= Add up all sides

Area:

Rectangle: $L \times W$
 $B \times H$

Square: $L \times W$
 $S \times S$

Triangle: $\frac{1}{2}bh$

Circle: $C = \pi d$
 $= \pi r$

Area = $\pi r \times r$

1.7

Polygons:

-closed plane figure

-3 or more segments

concave: forms a cave. You can draw a line and form lines on inside.

Convex: not concave

Equilateral: All sides are equal

Regular:

-Equilateral

_Equiangular

-Convex

# Sides	Name
3	Triangle
4	Quadrilateral
5	Pentagon
6	Hexagon
7	Septagon/ Hectagon
8	Octagon
9	Nonagon
10	Decagon
12	Dodecagon
n	n-gon