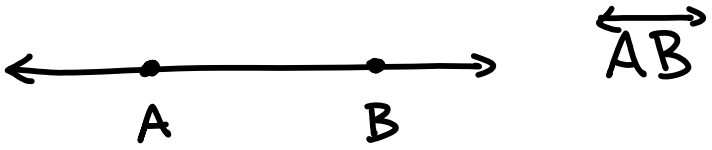
Foundations to Geometry

Chapter Review

Points, Lines and Planes

the terms points, lines, and planes <u>can not</u> be defined

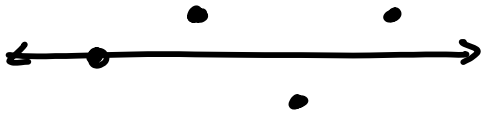
How we name lines



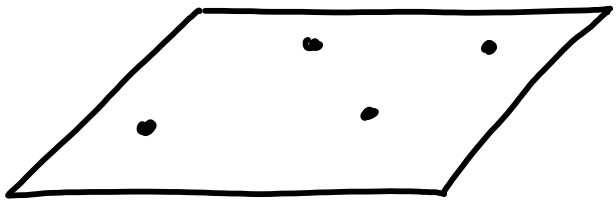
How we name planes

Collinear - 

points all on same line

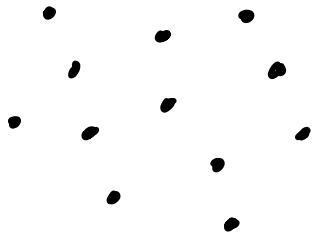
Non-Colliner - 

points not on the same line

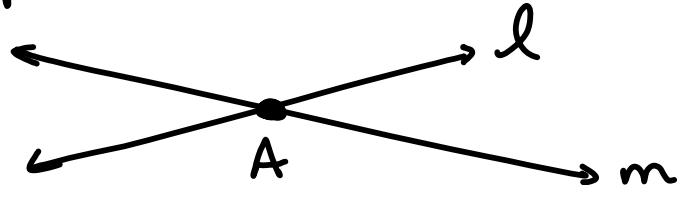
Coplanar - 

points on the same plane

Space - the set of all points



Intersection of figures share the same point(s)

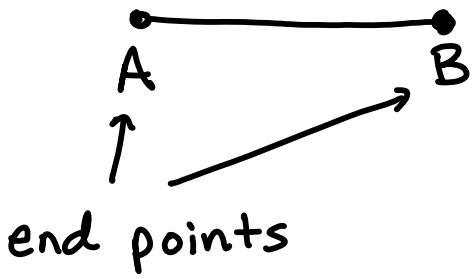


point A is on line l and m - therefore it is the intersection of l and m.

Line Segments and Rays

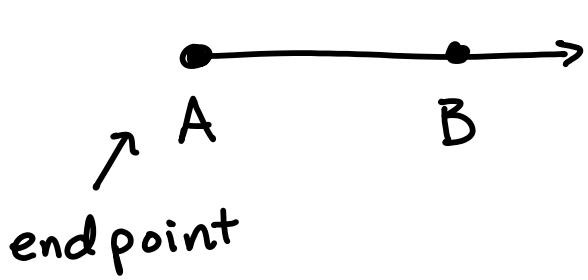
Line segment – part of a line

$\overline{AB}$

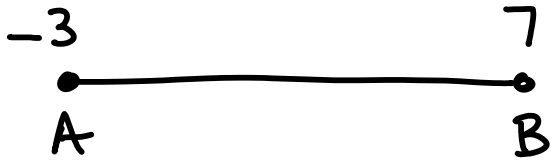


Ray – end point / line

$\overrightarrow{AB}$



length / distance between two points



$AB = |-3-7| = |-10| = 10$

length = absolute value of difference of end-points

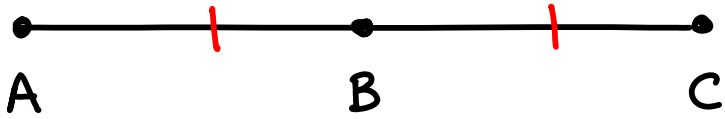
Congruent Segments – same length

$\overline{AB} \cong \overline{CD}$

↑

congruent

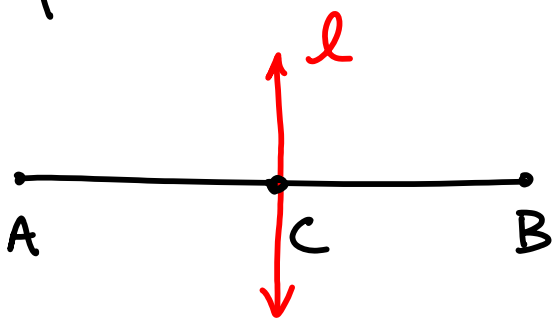
Mid-Point – point that divides segment into two congruent segments



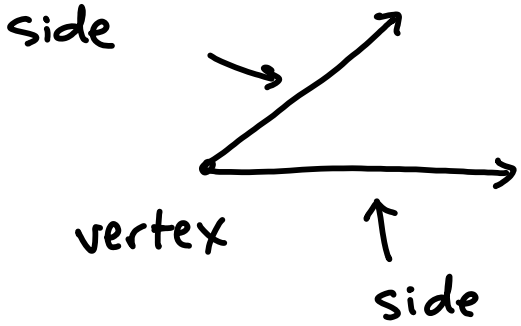
B is the midpoint of $\overline{AC}$

therefore $\overline{AB} \cong \overline{BC}$

Bisector – can be a line, segment or plane that intersects midpoint

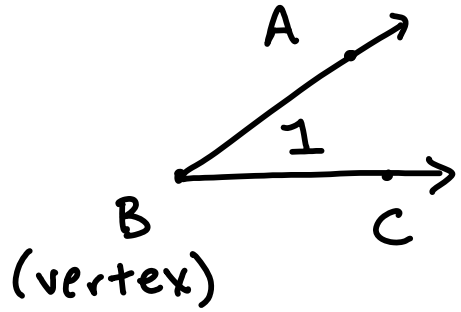


Angles



Angles – two rays that start at same end point

Can name angles in various ways



name for same angle

$\angle ABC$, $\angle CBA$, $\angle 1$

vertex

$m\angle ABC = 50^\circ$

↑

measure of angle $\angle ABC$

Classify Angles by Angle Measure

$m\angle$ less 90° - acute angle

$m\angle = 90^\circ$ - right angle $\sim$

$m\angle$ greater 90° less than 180° - obtuse angle

$m\angle = 180^\circ$ - straight angle

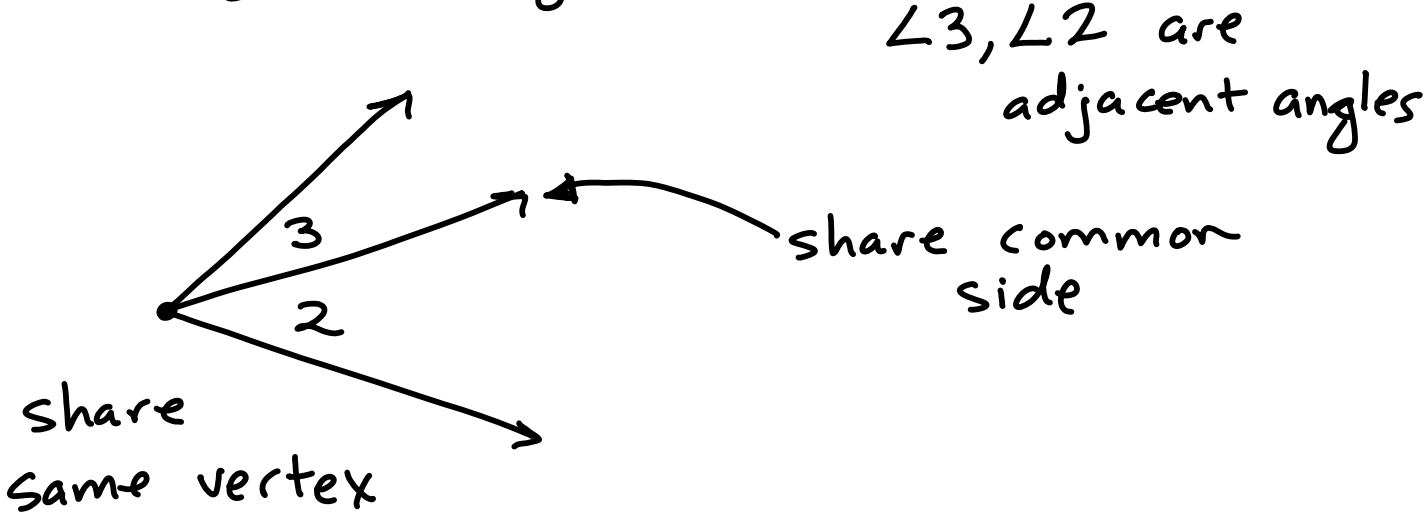
Congruent Angles = angle measure

$m\angle ABC = 50^\circ$

$m\angle EFG = 50^\circ$

$\angle ABC \cong \angle EFG$

Adjacent Angles



Postulates and Theorems

Postulate – statements accepted without proof

Theorems – statements that can be proved