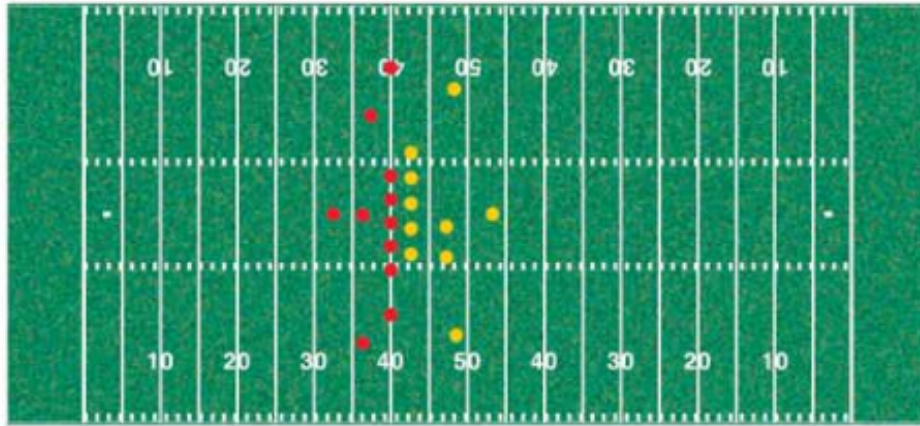




Geometry's Undefined Terms:

Point, Line, and Plane

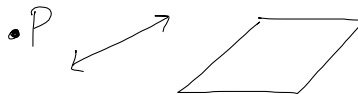


Section 1.1: Identify Points, Lines and Planes

EQ: How do you name geometric figures?

undefined terms

Point Line Plane



point

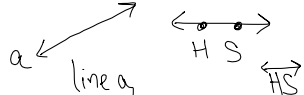
No Dimension

Represented by a dot



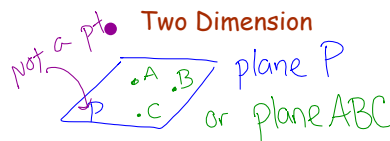
line

One dimension



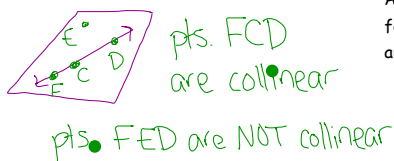
plane

Two Dimension



collinear points

Points that lie on the same line

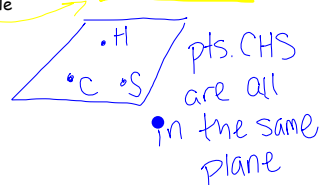


coplanar points

Points that lie in the same

plane (form a triangle)

Any pts. that form a triangle are coplanar

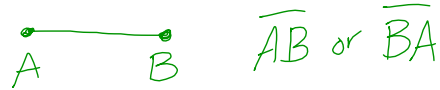


defined terms

Terms that can be defined using point, line, and plane

line segment

Consists of 2 endpoints;
Part of a line



endpoints

The end of a segment or ray



ray

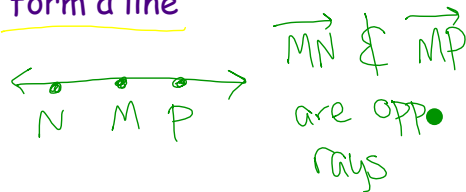
Half a line, consists of one endpt. and all pts. from the endpt. on one side

\overrightarrow{RY} endpt. R is written 1st

~~NOT \overrightarrow{YR}~~

opposite rays

Rays with the same endpt. and form a line

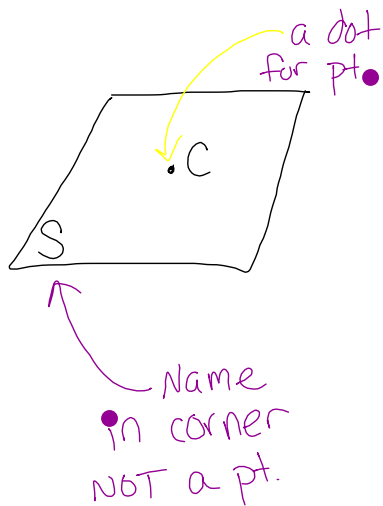


intersection

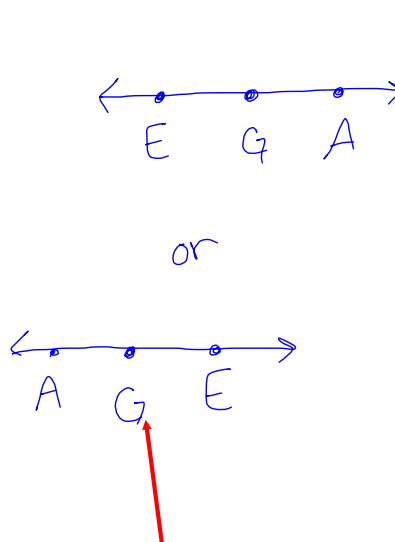
The set of pts. figures have in common; overlapping points

A1. Sketch the following.

a. Point C on plane S



b. Opposite rays, \overrightarrow{GE} and \overrightarrow{GA}



*Notice the common endpt. G is in the "middle"

c. line JK



A2. Use the figure to answer to following.

- a. Give the five other names for \overleftrightarrow{CG} .
 \overleftrightarrow{AG} \overleftrightarrow{GA} \overleftrightarrow{GC} \overleftrightarrow{AC} \overleftrightarrow{CA}

- b. Give three points that are collinear.

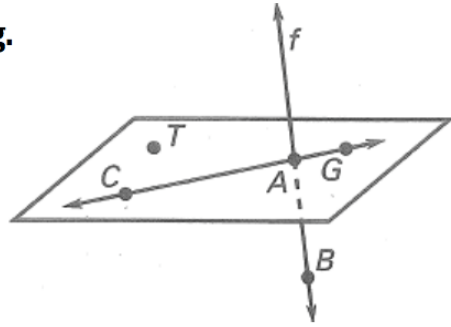
C, A, G or G, A, C

- c. Give two names for the plane shown.

plane CAT or plane CTG

- d. Name the intersection of the plane and line f .

point A

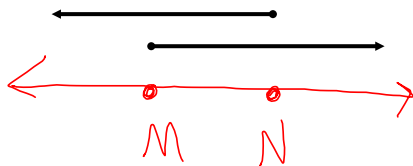


(3pts that form a Δ in the plane)

A3. Are \overrightarrow{MN} and \overrightarrow{NM} the same ray? Opposite rays? Explain.



No, do not have the same endpt.



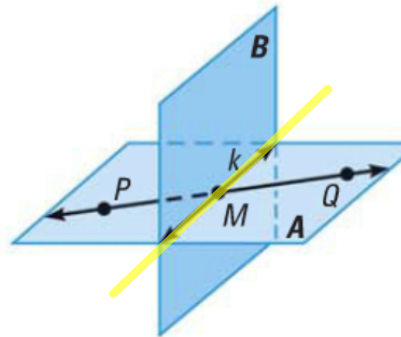
Not opposite rays because they do NOT have the same endpt. and if you put them together they form a line, but overlap

A4. Are any of the following situations with 3 planes possible?

- a. None of the 3 planes intersect.
yes, all 3 planes parallel (3 floors in building) (1st // 2nd // 3rd)
- b. The 3 planes intersect at one line.
yes, paddle wheel
- c. The 3 planes intersect at one point.
yes, 2 walls & floor intersect at corner
- d. Two planes do not intersect and a 3rd plane intersects the other two.
yes, floor parallel to ceiling and vertical wall intersects both
- e. Only 2 of the 3 planes intersect.
no, planes extend without end so eventually the 2 will intersect the 3rd

A5. Use the diagram at the right.

- a. Name the intersection of plane B and line k .
line k → it lies in plane B
- b. Name the intersection of plane B and \overrightarrow{PQ} .
pt. M
- c. Name the intersection of plane B and plane A.

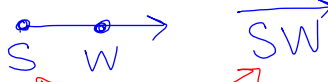


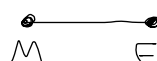
line k → 2 planes intersect at one line



EQ: How do you name geometric figures?


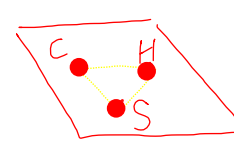
1.1 Summary:

Point: • use CAPITAL letter • J

Ray: • Begin w/ endpt.  ray symbol always points to the right

Segment: • 2 endpts.  \overline{ME} or \overline{EM}

Line:  line a (lower case)  \overleftrightarrow{MD} or \overleftrightarrow{DM} (capital)

Plane: • name in corner w/ capital letter  or w/ 3pts. that form a \triangle  plane CHS