
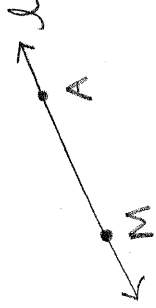
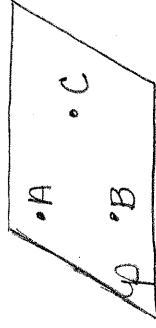
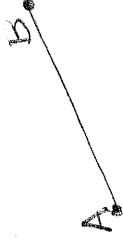




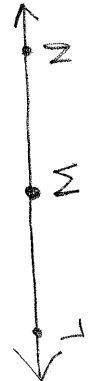




Undefined Terms of Geometry - Figures that can't be defined using other figures

1. Point

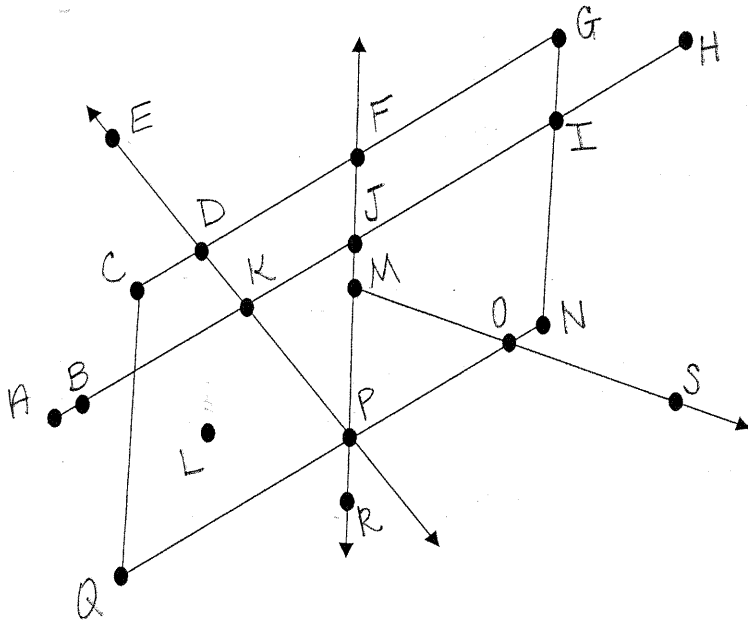
2. Line

3. Plane

Vocabulary Term	Definition	Example	Notation
Point	Names a location in space Has no size and can't be measured		"Point P" Named with a capital letter
Line How many points lie on a line?	Straight path No thickness Extends infinitely in both directions		"line l" or ↔ AM ↔ MA ↙ ↘ points on line lowercase cursive letter
coordinate plane? How many points lie in a plane?	Flat surface No thickness Extends forever		"Plane P" - capital cursive letter "Plane ABC" - 2 points not on a line
Endpoint	A point at the end of a segment Starting point of a ray		"Point A & Point B" arc endpoints

Line Segment	Part of a line consisting of two points and all of the points between them		\overline{NS} \overline{SN}
Ray	Part of a line that starts at an endpoint extends infinitely in one direction		named w/ endpoint first \overrightarrow{CD}
Opposite Rays	Two rays with a common endpoint that form a line.		\overrightarrow{ML} & \overrightarrow{MN} are opposite rays
Collinear	Points that lie on the same line		Point M, Point A, Point T and Point H are collinear
Noncollinear	Points that do not lie on the same line		Point M, Point A, Point H are noncollinear
Could points and lines be coplanar?	Points that lie in the same plane		Point E, Point F, and Point G are coplanar
Noncoplanar	Points that do not lie in the same plane		Point A, Point B, Point C, Point D are noncoplanar

Example: Using the diagram below, give an example of each of the following:



* Answers will vary

Point Point A

Endpoint Point C

Opposite Rays MS

Line EP

3 Collinear Points Points F, J & M

Intersecting Lines EP & FR
(@ pt. P)

Plane Plane LJO

4 Coplanar Points Points C, G, N & Q

4 Noncoplanar Points Points E, F, S & A

Ray KE

Segment EK

3 Noncollinear Points Points R, N, & D

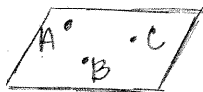
Postulate (Axiom) - A statement that is accepted as true without proof.

POINT - LINE - PLANE POSTULATE

1. Through any two points there is exactly one line.



2. Through any three noncollinear points there is exactly one plane containing them.

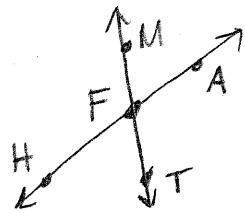


3. If two points lie in a plane, then the line containing those points lies in the plane.



Intersection - the set of all points that two or more figures have in common

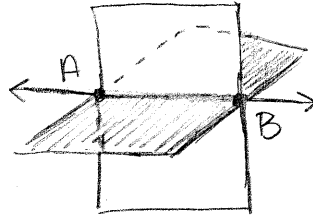
INTERSECTION OF LINES AND PLANES POSTULATE



1. If two lines intersect, then they intersect in exactly one point

2. If two planes intersect, then they intersect in exactly one line.

* Where in the classroom do we see this? - Where two walls come together



Questions: Think about these...

1. Explain why any two points are collinear.

Through any two points there is a line, so any two points are collinear.

2. Must any two planes intersect? Why or why not?

No, planes could be parallel

3. What would happen if planes were extended - Would they then all intersect?

No, parallel planes will NEVER intersect.

4. If a line lies in a plane, how many points of intersection do the line and the plane have?

Infinitely many!

5. Explain why points and lines may be coplanar even when the plane containing them is not drawn.

Any three noncollinear points determine a plane.

6. Sketch a line intersecting a plane at one point.

