


1-3 Points, Lines, and Planes

Objective: Use postulates and undefined terms.

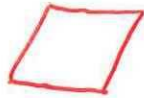
Geometry depends on three undefined terms

- Point
- Line
- Plane

Point: has no size  *Point A*
dot

Line: extend without end in both directions 
(arrows going both ways) \overleftrightarrow{AB} or \overleftrightarrow{BA}

Plane: represented by a shape that looks like a floor or a wall



Postulates: accepted without further justification

Collinear points: points that lie on the same line

Co: same


*↑
line*


Coplanar points: points that lie on the same plane

*↑
plane*

Coplanar lines: lines that are on the same plane

*↑
plane*

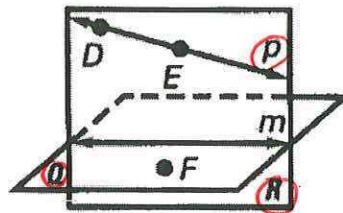
Segment: 2 points and all the points in between 
no arrows \overline{AB} or \overline{BA}

Ray: 1 endpoint and all the points extending in one direction 
one arrow \overrightarrow{AB}

Examples:

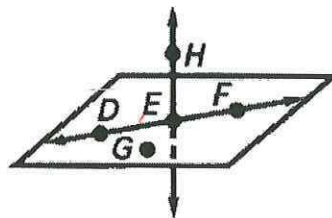
1. Use the diagram at the right.

- a. Name 3 points. D, E, F
 b. Name 2 lines. P or $\overleftrightarrow{DE}, m$
 c. Name 2 planes.
 Plane Q
 Plane R



2. Use the diagram at the right.

- a. Name three points that are collinear. D, E, F
 b. Name four points that are coplanar. D, E, F, G
 c. Name three points that are not collinear.
 G, H, D



Use the diagram at the right.

3. Name two lines.

n, m, p

4. Name two planes.

T, S

5. Name three points that are collinear.

C, D, E

6. Name three points that are not collinear.

A, B, E

7. Name four points that are coplanar.

B, C, D, E

8. Name two lines that are coplanar.

p, m

or

p, n

Same plane

