

1-3: Points, Lines, and Planes

Vocabulary

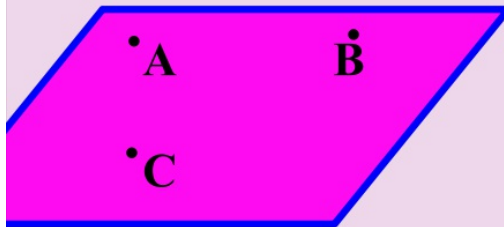
Point: A location represented by a small dot and named by a capital letter.

Space: The set of all points (a geometric figure is a set of points)

Line: A series of points that extends in two opposite directions.

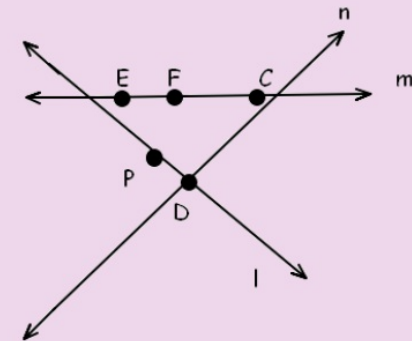
Collinear Points: Points that lie on the same line.

Plane: A flat surface that has no thickness.



Plane ABC

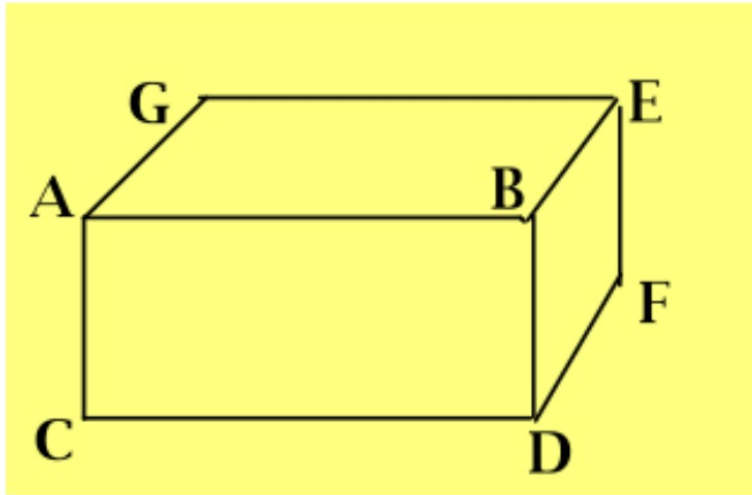
Coplanar: Points and lines in the same plane.



Example: Each surface of the cube represents part of a plane.

- *Name the plane represented by the front of the cube?*

(to name a plane name at least three non collinear points in the plane)



- *Shade the plane that contains points A, D, and F.*

Postulate/ Axiom: An accepted statement or fact.

Postulate: Through any two points there is exactly one line.

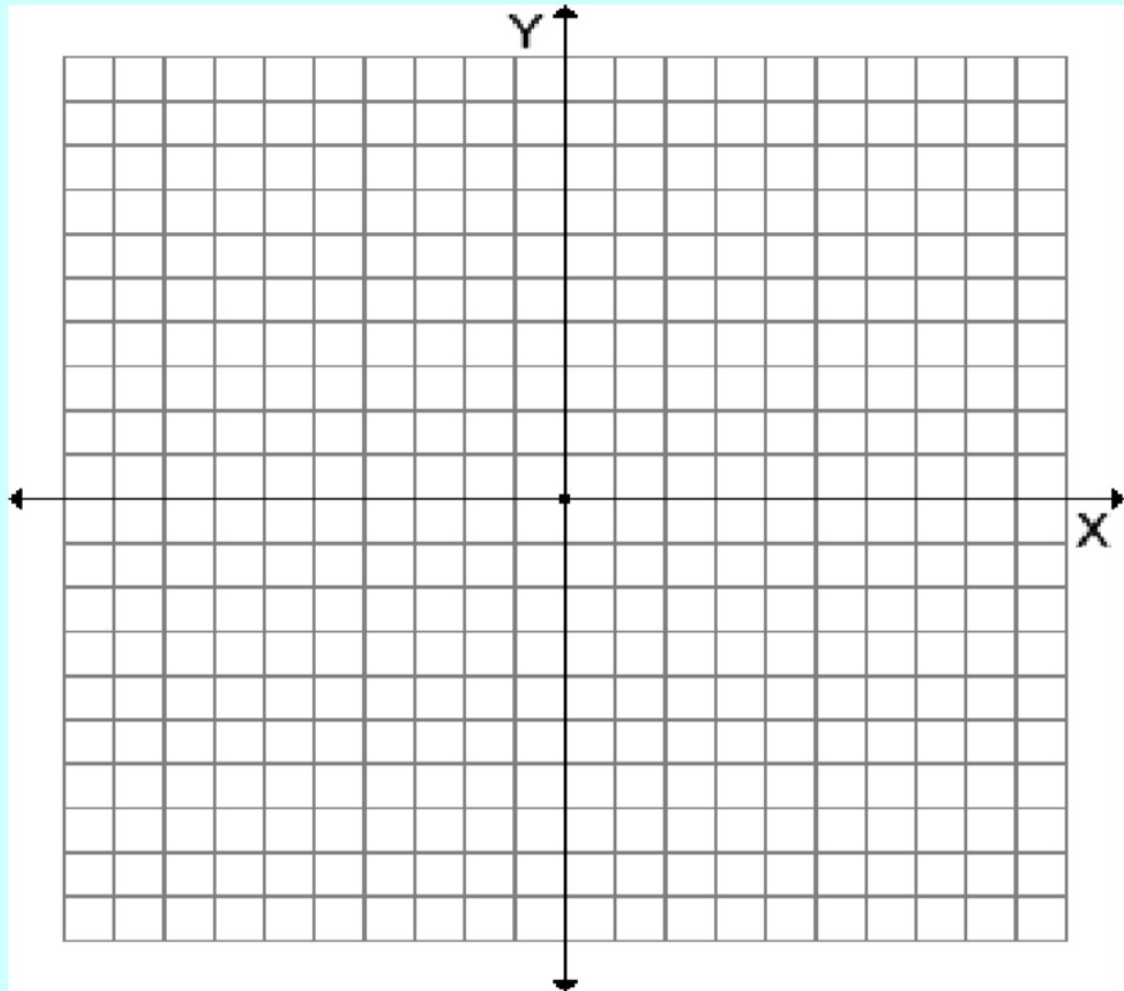


Postulate: If two lines intersect, then they intersect in exactly one point.

Ex: You learned in Algebra that one way to solve a system of two equations is to graph the two equations. Solve the following system by graphing.

$$y = -2x + 8$$

$$y = 3x - 7$$

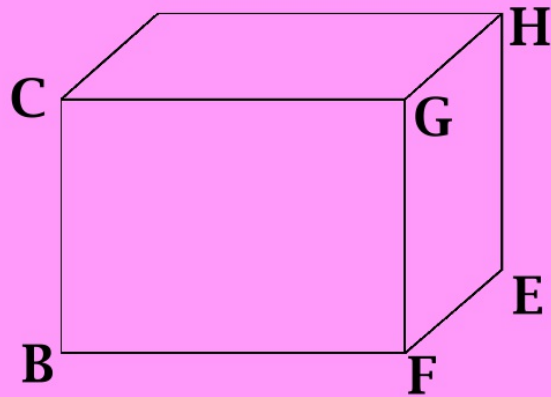


Solution: _____

We know this is the solution because two lines can only intersect at one point!

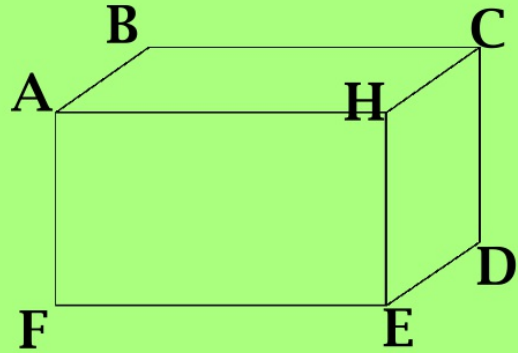
Postulate: If two planes intersect, then they intersect in exactly one line.

What is the intersection of plane HGFE and Plane BCGF?

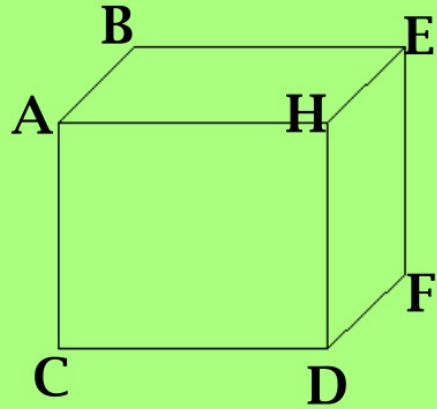


Postulate: Through any three noncollinear points there is exactly one plane.

1. Shade the plane that contains A, B, and C.



2. Shade the plane that contains E, H, and C.



Lesson Objectives:

I can...

- explain basic terms of geometry
- identify and name points, lines & planes
- explain and apply basic postulates of geometry

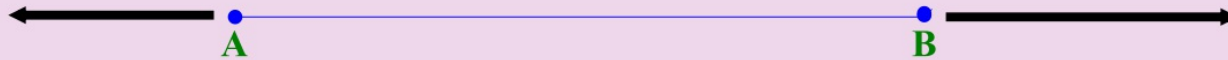
Assignment:

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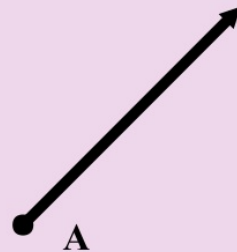
1-4: Segments, Rays, Parallel Lines and Planes

Vocabulary

Segment: The part of a line consisting of two endpoints and all points between them.



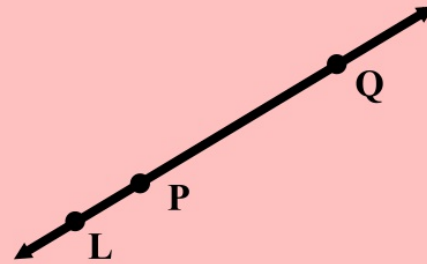
Ray: The part of a line consisting of one endpoint and all the points of the line on one side of the endpoint.



Opposite Rays: Two collinear rays with the same endpoint. Opposite rays always form a line.

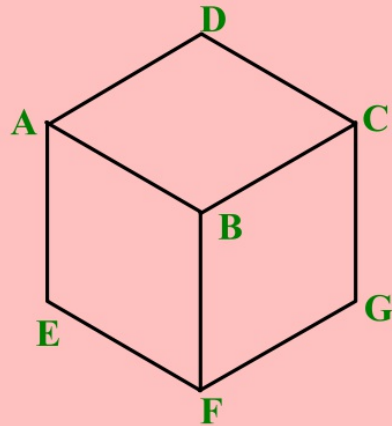


Example: Name all of the segments and rays in the figure below.



Parallel lines: Coplanar lines that do not intersect.

Skew lines: Noncoplanar lines. They are not parallel and do not intersect.

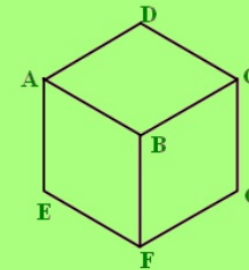


Name the

Parallel Lines:

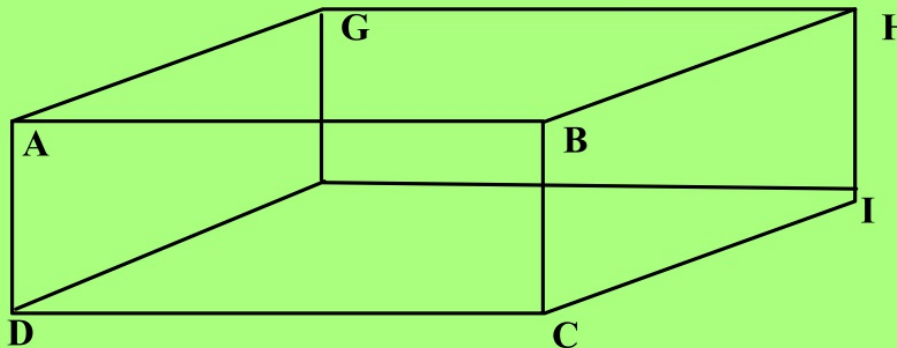
Skew Lines:

Segments or rays are parallel if they lie in parallel lines. They are skew if they lie in skew lines.



So, ___ and ___ are skew because ___ and ___ are skew.

Parallel Planes: Planes that do not intersect.



Plane ABC is Parallel to Plane GHI

Plane ABC is parallel to \overleftrightarrow{GH}

Plane ABH is parallel to Plane _____

Plane BHI is parallel to Plane _____

Give a line that both ABH and DAG are parallel to _____

Lesson Objective:

I can . . .

- Identify and name segments, rays, parallel lines, skew lines and planes.

Assignment:

Page 25: 1-23 odd, 25-33 odd

