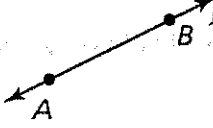
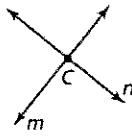
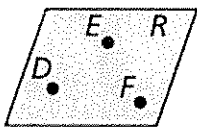
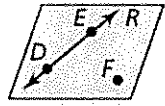
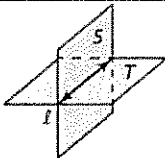


Identifying Postulates

Lesson Objective

INBAT name postulates and use diagrams to name them; sketch geometric figures.

Postulates

Name	Postulate	Example Diagram	Diagram Explanation
Two Point Postulate	Through any <u>2</u> points, there exists exactly <u>1</u> line.		Through points A and B , there is exactly one line, l .
Line-Point Postulate	A line contains at least <u>2</u> points.		Line l contains at least two points.
Line Intersection Postulate	If two lines intersect, then their intersection is exactly <u>1 point</u> .		The intersection of line m and line n is point C .
Three Point Postulate a.k.a. the "Tripod Postulate"	Through any <u>3</u> noncollinear points there exists exactly <u>1</u> plane.		Through points D , E , and F , there is exactly one plane, plane R .
Plane-Point Postulate	A plane contains at least <u>3</u> noncollinear points.		Plane R contains at least three noncollinear points.
Plane-Line Postulate	If <u>2</u> points lie in a plane, then the line containing them lies in the plane.		Points D and E lie in plane R , so $\overline{DE}$ lies in plane R .
Plane Intersection Postulate	If two planes intersect, then their intersection is a <u>line</u> .		The intersection of plane S and plane T is line l .

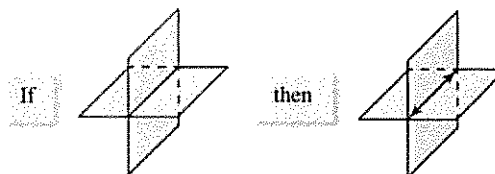
Example: State the postulate illustrated by the diagram.

1.



line intersection post.

2.



plane intersection post.

Example: Use the diagram to write examples of the following postulates:

3. Plane-Point Postulate

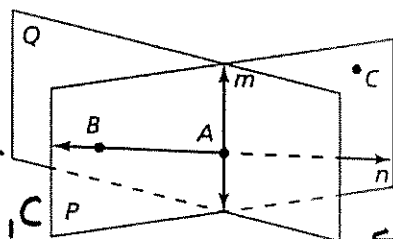
plane P contains 3 noncollinear points: B, A, C

4. Plane-Line Postulate

B, A are in plane P, so we can make $\overleftrightarrow{BA}$

5. Three Point Postulate

A, B, C are noncollinear, so we can make plane P.



Sketching Diagrams

Example:

6. Sketch a diagram showing $\overleftrightarrow{TV}$ intersecting $\overleftrightarrow{PQ}$ at point W, so that $\overline{TW} \cong \overline{WV}$.

7. Sketch a diagram showing $\overleftrightarrow{VX}$ intersecting $\overleftrightarrow{UW}$ at V so that $\overleftrightarrow{VX}$ is perpendicular to $\overleftrightarrow{UW}$ and U, V, and W are collinear.