

Bellwork

09/13/2011

Use one of the laws of logic to draw a conclusion from the statements.
Tell which law of logic you used.

1. If two angles are complementary, then the sum of their measures is 90° .

$\angle C$ and $\angle D$ are complementary.

$\angle C + \angle D$ add to 90°
Detachment

2. If water is at room temperature, then it is a liquid.
If water is a liquid, then it is not frozen.

If water is at room temp. then it is not frozen.

Syllogism

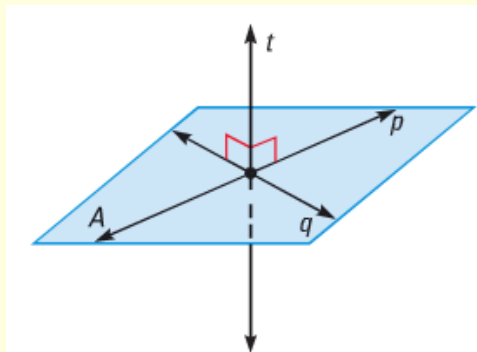
Geometry

2.4 Use Postulates and Diagrams

Standard(s): 7

Vocabulary:

1. **Line Perpendicular to a Plane:** A line that intersects the plane in a point and is perpendicular to every line in the plane that intersects it at that point.



POSTULATES

For Your Notebook

Point, Line, and Plane Postulates

- | | |
|---------------------|--|
| POSTULATE 5 | Through any two points there exists exactly one line. |
| POSTULATE 6 | A line contains at least two points. |
| POSTULATE 7 | If two lines intersect, then their intersection is exactly one point. |
| POSTULATE 8 | Through any three noncollinear points there exists exactly one plane. |
| POSTULATE 9 | A plane contains at least three noncollinear points. |
| POSTULATE 10 | If two points lie in a plane, then the line containing them lies in the plane. |
| POSTULATE 11 | If two planes intersect, then their intersection is a line. |

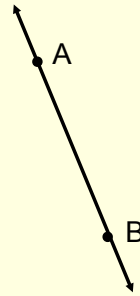
Identify a Postulate Illustrated by a Diagram

State the postulate illustrated by the diagram.

A. If

•A

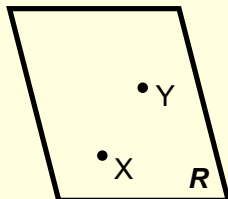
then



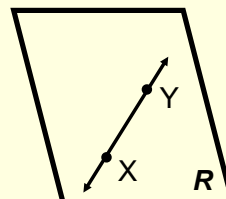
•B

Pos. 5: Through any 2 pts. there exists exactly 1 line.

B. If



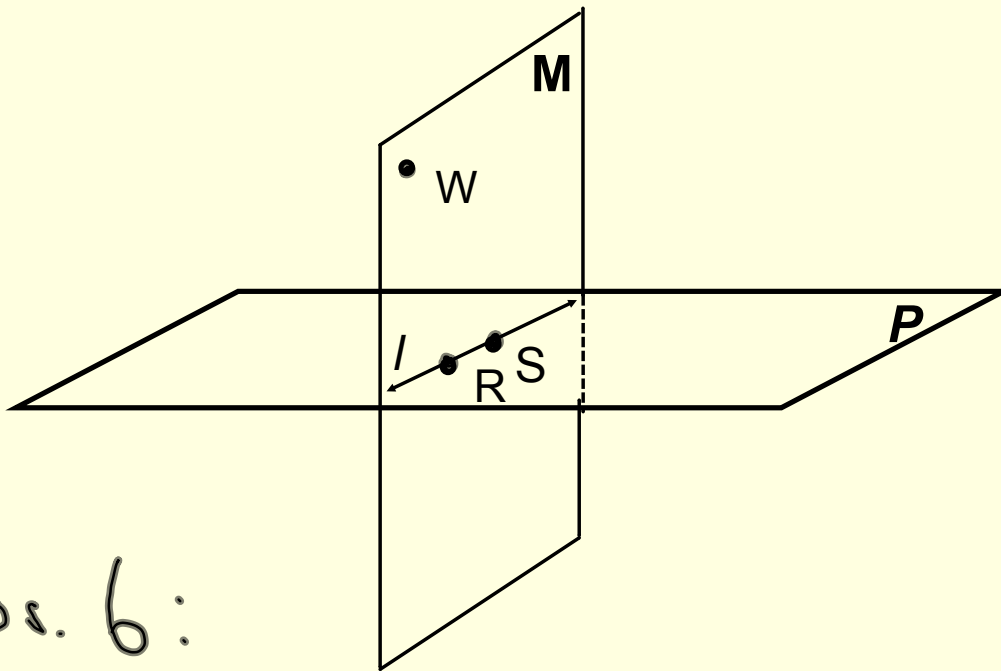
then



Pos. 10: If 2 pts. lie in a plane, then the line through those 2 pts. are also in the plane.

Identify Postulates from a Diagram

Use the diagram to write examples of Postulates 6 and 8.



Pos. 6:

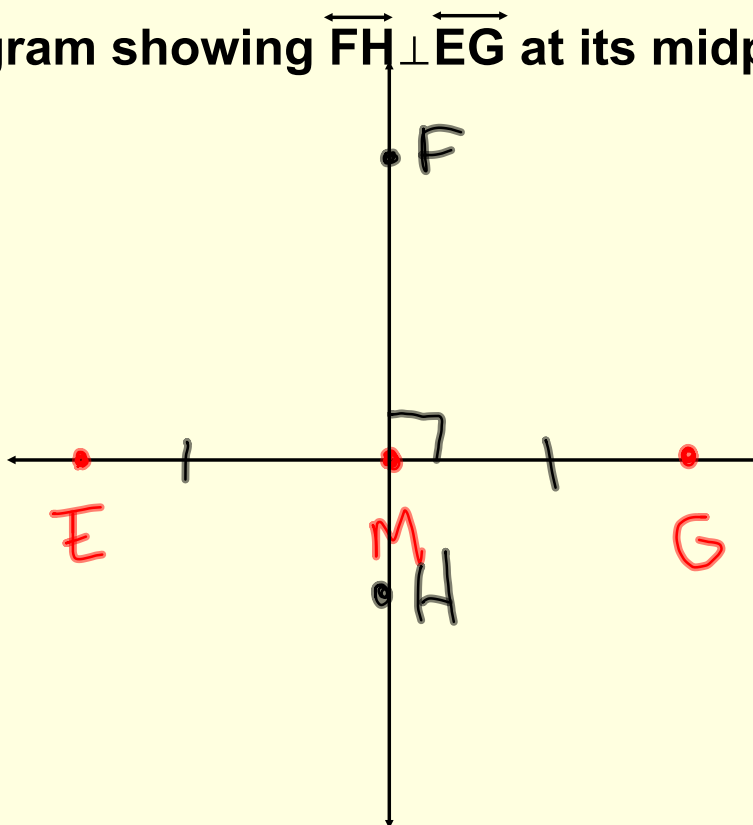
line l contains pts. $R + S$

Pos. 8:

Pts. $R, S, + W$ are within plane M

Use Given Information to Sketch a Diagram

Sketch a diagram showing $\overleftrightarrow{FH} \perp \overleftrightarrow{EG}$ at its midpoint M .



Interpret a Diagram in Three Dimensions

Use the diagram to tell whether each statement is true or false.

A, B, and C are collinear. **T**

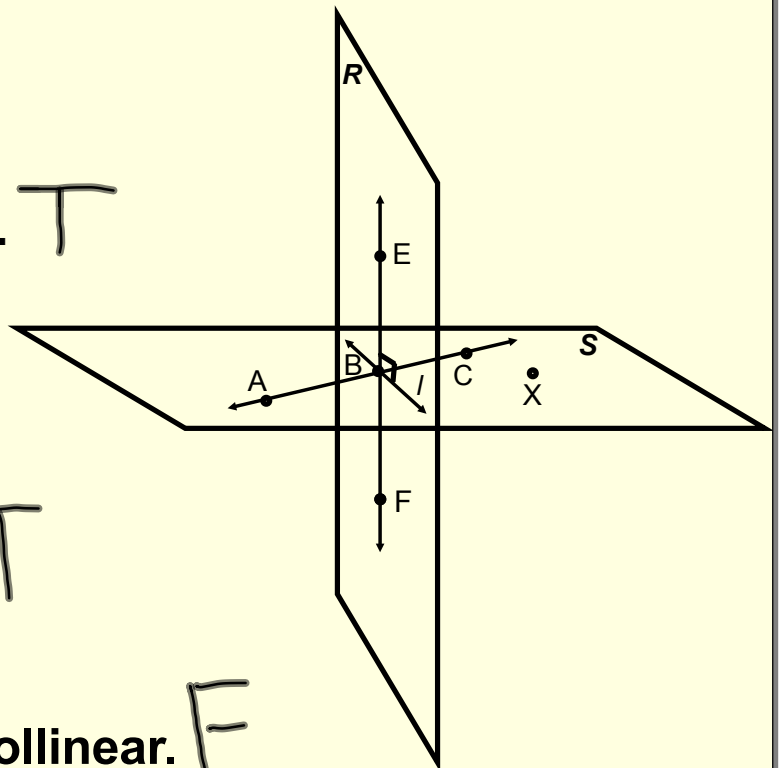
$\overleftrightarrow{EF} \perp \text{line } l$. **T**

$\overleftrightarrow{BC} \perp \text{plane } R$. **F**

\overleftrightarrow{EF} intersects \overleftrightarrow{AC} at B. **T**

line $l \perp \overleftrightarrow{AB}$. **F**

Points B, C, and X are collinear. **F**



Homework Assignment

Worksheet 2.4B

