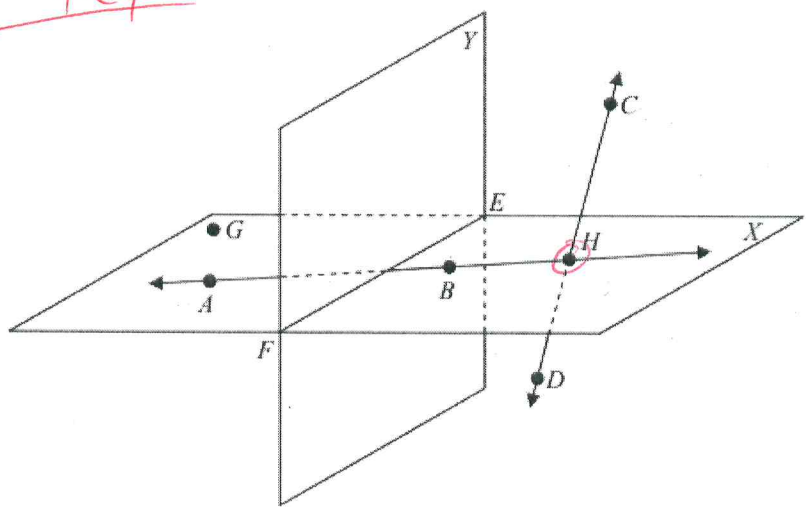
Answer Key



Use the diagram to provide an example or a non-example demonstrating each postulate.

1. Through any two points there exists exactly one line.
2. If two lines intersect, they intersect at exactly one point.
3. Through any three non-collinear points there is exactly one plane.
4. If two points lie in a plane, then the line containing those points will also lie in the plane.
5. If two planes intersect, they intersect in exactly one line.

Using the diagram at the top of the page label each statement as true or false and **EXPLAIN** why.

1. $\overline{AB}$ contains H
False, H is not between A and B
2. $\overleftrightarrow{AB}$ contains H
True
3. $\overline{AH}$ contains B
True, B is between A and H
4. $\overleftrightarrow{CD}$ contains B
False, B is not collinear w/ C and D
5. $\overleftrightarrow{CD}$ intersects X at *H*
True
6. Plane *X* contains $\overleftrightarrow{AB}$ and *G*
True
7. $\overleftrightarrow{CD}$ passes through *H*
True -
8. *X* and *Y* intersect at $\overleftrightarrow{CD}$
False, they intersect at $\overleftrightarrow{FE}$
9. *A*, *B*, and *H* are collinear
True
10. *C*, *G*, *B*, and *A* are coplanar
False, C is not in Plane ABG
11. *C*, *G*, and *A* are coplanar
True
12. *A*, *B*, and *C* are collinear
False
13. *A* and *C* are collinear
True
14. Any three points are coplanar but not necessarily collinear.
True