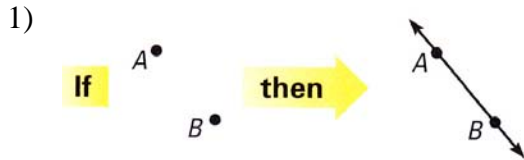


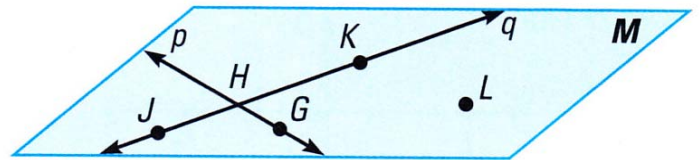
1.C – Using Postulates and Diagrams

State the postulate illustrated by the diagram

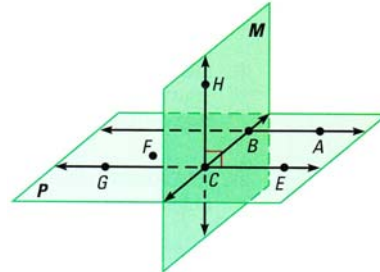


In #3-5, use the diagram to write an example of each postulate

- 3) Line-Point Postulate
- 4) Line Intersection Postulate
- 5) Point-Plane Postulate



- 6) Which of the following statements cannot be assumed from the diagram?
- a) Points A, B, C and E are coplanar.
 - b) Points F, B and G are collinear
 - c) $\overline{HC} \perp \overline{GE}$
 - d) \overline{EC} intersects plane M at point C .

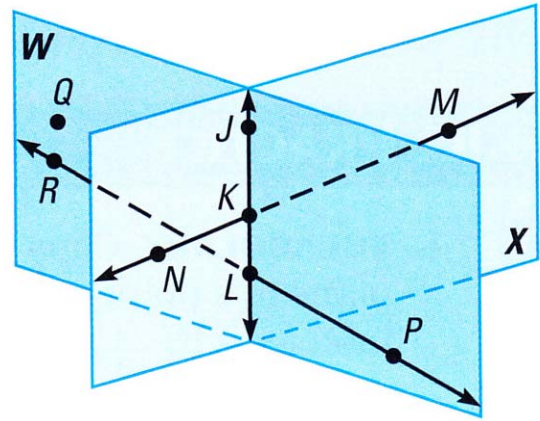


In #7-9, decide whether the statement is true or false. If it is false, give a real-world counterexample.

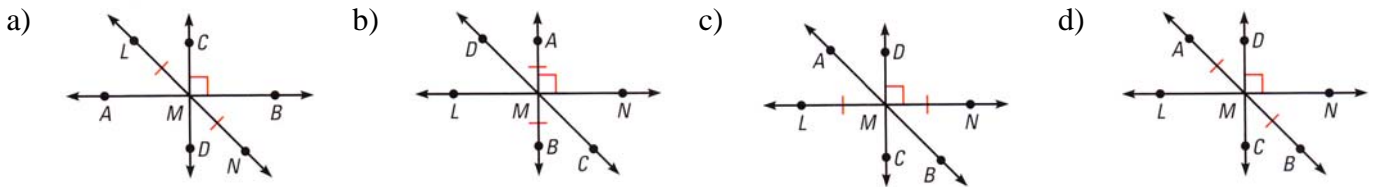
- 7) Through any three points, there exists exactly one line.
- 8) A point can be in more than one plane.
- 9) Any two planes intersect.
- 10) Sketch a diagram showing that \overline{XY} intersecting \overline{WV} at point T , so $\overline{XY} \perp \overline{WV}$. In your diagram, does \overline{WT} have to be congruent to \overline{TV} ?

Use the diagram to determine if the statement is true or false.

- 14) Planes W and X intersect at \overline{KL} .
- 15) Points $Q, J,$ and M are collinear.
- 16) Points K, L, M and R are coplanar.
- 17) \overline{MN} and \overline{RP} intersect.
- 18) $\overline{RP} \perp$ plane W .
- 19) \overline{JK} lies in plane X .
- 20) $\angle PLK$ is a right angle.
- 21) $\angle NKL$ and $\angle JKM$ are vertical angles.
- 22) $\angle NKL$ and $\angle JKM$ are supplementary angles.
- 23) $\angle JKM$ and $\angle KLP$ are congruent angles.



24) Choose the diagram showing $\overline{LN}, \overline{AB}$ and \overline{DC} intersecting at point M , \overline{AB} bisecting \overline{LN} , and $\overline{DC} \perp \overline{LN}$



25) Use the point-line postulate and plane-point postulate to explain why every plane contains at least one line.

26) Sketch a line m and a point C not on that line. Make a conjecture about how many planes can be drawn so that line m and point C line in the plane. What postulates helped you justify your conjecture?