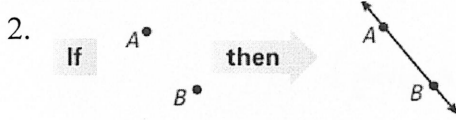
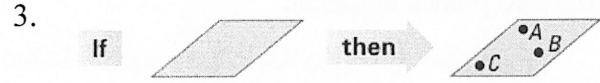


1. A line perpendicular to a plane is a line that intersects the plane in a point and is perpendicular to every line in the plane that intersects it.

State the postulate illustrated by the diagram.



Postulate 5



Postulate 9

Use the diagram to write an example of each postulate.

4. Postulate 6

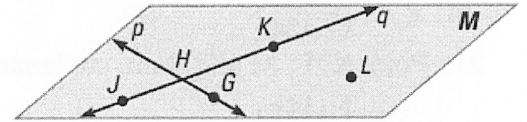
line q contains points J and K .

5. Postulate 7

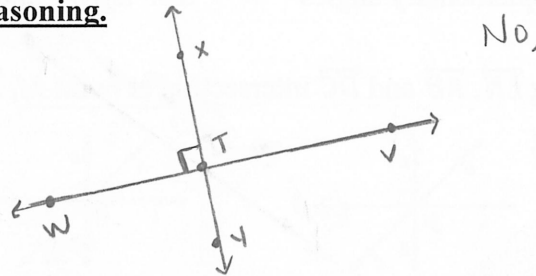
line p and q intersect @ point H

6. Postulate 8

Point J, G, L lie in Plane M .



7. Sketch a diagram showing \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} ? **Explain your reasoning.**



Determine whether the following statements can or cannot be assumed by the diagram?

8. Point A, B, C and F are coplanar **Yes.**

9. Points F, B and G are collinear. **No.**

10. $\overline{HC} \perp \overline{GE}$ **Yes.**

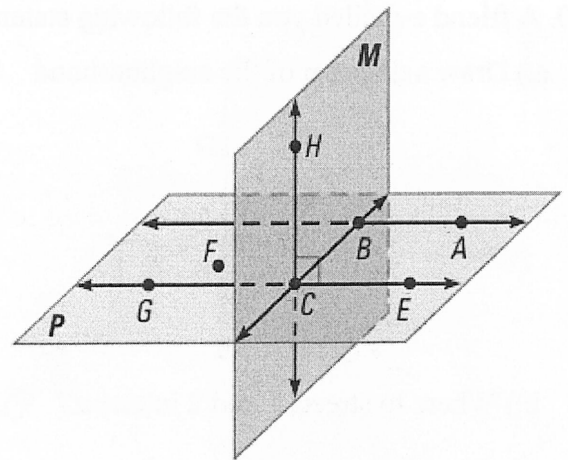
11. \overline{EC} intersects plane M at point C . **Yes**

12. $\overline{AB} \cong \overline{EC}$ **No.**

13. $\angle ABC = 90^\circ$ **No.**

14. Point C is the midpoint of \overline{GE} **No.**

15. $\overline{HC} \perp \overline{AB}$ **Yes (#1 def)**



Decide whether the statement is true or false. **If it is false, give a counterexample.**

16. Through any three points, there exists exactly one line.

False



17. A point can be in more than one plane.

True

18. Any two planes intersect.

False (parallel planes like a floor and ceiling)

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

19. Planes W and X intersect at \overleftrightarrow{KL}

True

20. Points Q , J , and M are collinear.

False

21. Point K , L , M and R are coplanar.

False

22. \overleftrightarrow{MN} and \overleftrightarrow{RP} intersect.

False

23. $\overleftrightarrow{RP} \perp$ plane W

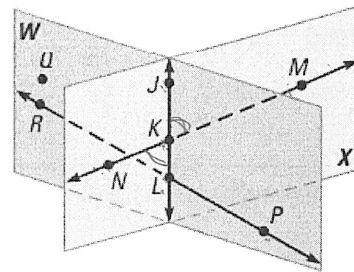
False

25. $\angle PLK$ is a right angle.

False

27. $\angle NKL$ and $\angle JKM$ are supplementary angles

True



24. \overleftrightarrow{JK} lies in plane X .

True

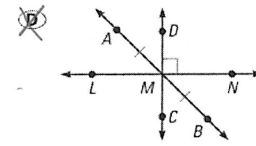
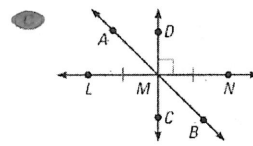
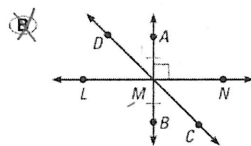
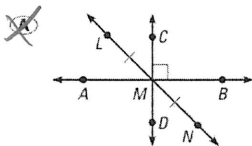
26. $\angle NKL$ and $\angle JKM$ are vertical angles

True

28. $\angle JKM$ and $\angle KLP$ are congruent angles.

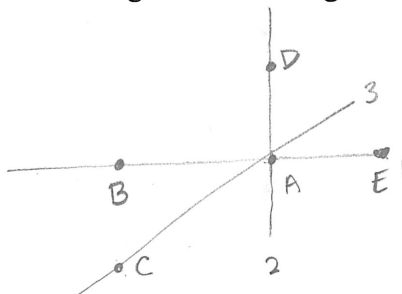
False

29. Choose the diagram showing \overleftrightarrow{LN} , \overleftrightarrow{AB} and \overleftrightarrow{DC} intersecting at point M , \overleftrightarrow{AB} bisecting \overleftrightarrow{LN} , and $\overleftrightarrow{DC} \perp \overleftrightarrow{LN}$



30. A friend e-mailed you the following statements about a neighborhood. Complete the following.

a.) Draw a diagram of the neighborhood



b.) Where do streets 1 and 2 intersect? *Building A*

c.) Classify the angle formed by streets 1 and 2. *Right Angle*

d.) Is Building E between Buildings A and B? Explain. *No, since $\angle CAE$ is obtuse Building E must be east of Building A.*

e.) What street is Building E on? *Street 1*

Subject	Neighborhood
	Building B is due west of Building A. Buildings A and B are on Street 1. Building D is due north of Building A. Buildings A and D are on Street 2. Building C is southwest of Building A. Buildings A and C are on Street 3. Building E is due east of Building B. CAE formed by Streets 1 and 3 is obtuse.