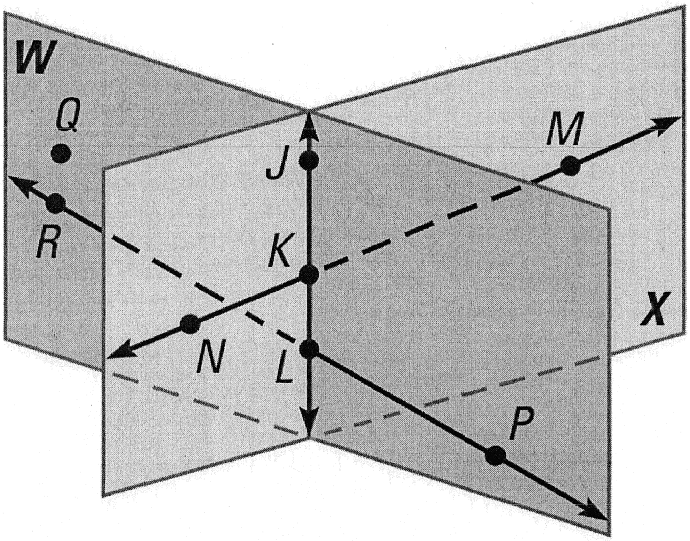
Lesson 2.4 Worksheet

Name: Key

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



1.) Planes W and X intersect at $\overleftrightarrow{KL}$. True

2.) Points Q, J, and M are collinear. False

3.) Points K, L, M, and R are coplanar. False

4.) $\overleftrightarrow{MN}$ and $\overleftrightarrow{RP}$ intersect. False

5.) $\overleftrightarrow{RP} \perp$ plane W. False

6.) $\overleftrightarrow{JK}$ lies in plane X. True

7.) ∠PLK is a right angle. False

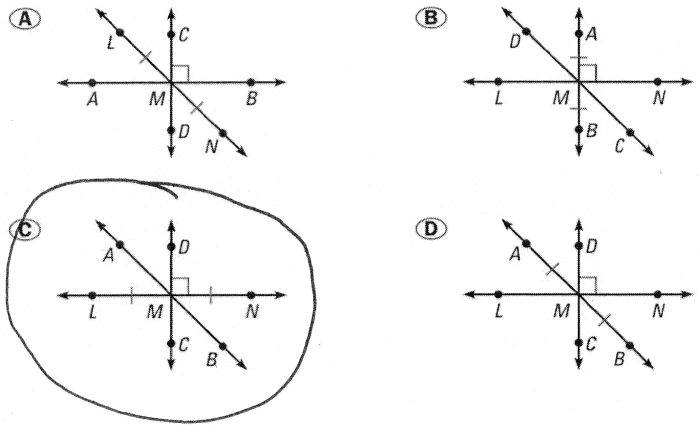
8.) ∠NKL and ∠JKM are vertical angles. True

9.) ∠NKJ and ∠JKM are supplementary angles. True

10.) ∠JKM and ∠KLP are congruent angles. False

11.) **Multiple Choice:** Choose the diagram at right showing $\overleftrightarrow{LN}$, $\overleftrightarrow{AB}$ *and* $\overleftrightarrow{DC}$ intersecting at point M, $\overleftrightarrow{DC}$ bisecting $\overline{LN}$, and $\overleftrightarrow{DC} \perp \overleftrightarrow{LN}$.

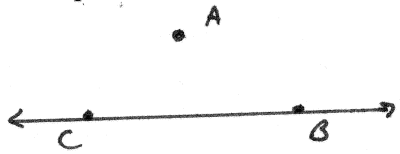
C.



Decide whether the statement is true or false. If it is false, give a giving a counterexample by sketching a diagram or writing a sentence.

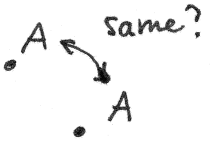
12.) Through any three points, there exists exactly one line.

False.

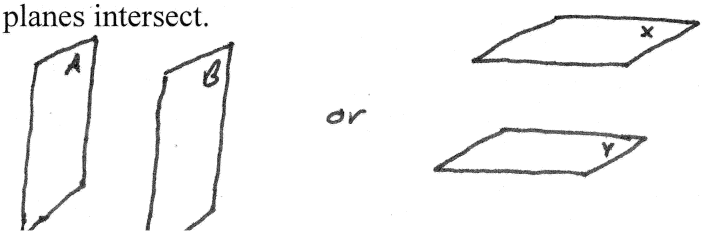


13.) A point can be in more than one plane.

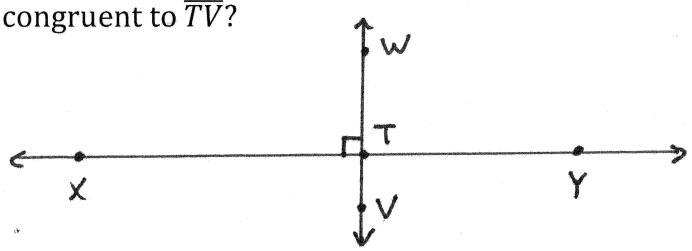
False.



14.) Any two planes intersect.



15.) Sketch a diagram showing $\overleftrightarrow{XY}$ intersecting $\overleftrightarrow{WV}$ intersecting at point T, so that $\overleftrightarrow{XY} \perp \overleftrightarrow{WV}$. In you diagram, does $\overline{WT}$ have to be congruent to $\overline{TV}$?



$\overline{WT}$ does not have to be $\cong$ to $\overline{TV}$. The words "bisect" or "midpoint" are not mentioned.

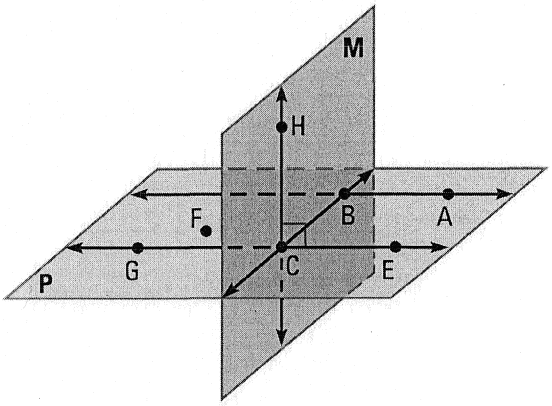
16.) **Multiple Choice:** Which of the following statements cannot be assumed from the diagram?

(A) Points *A*, *B*, *C*, and *E* are coplanar. ✗

(B) Points *F*, *B*, and *G* are collinear.

(C) $\overleftrightarrow{HC} \perp \overleftrightarrow{GE}$ ✗

(D) $\overleftrightarrow{EC}$ intersects plane *M* at point *C*. ✗



Use the diagram below to write an example of each postulate.

17.) "A line contains at least two points."

Example Line q contains points J and K.

18.) "If two lines intersect, then their intersection is exactly one point."

Example Lines p and q intersect at point H.

19.) "Through any three noncollinear points there exists exactly one plane."

Example Through points J, H, and L exists plane M.