Warm Up

1. Use the Law of Detachment to write a conclusion:

   If the measure of an angle is less than 90°, then it is acute.
   Angle *A* measures 40°

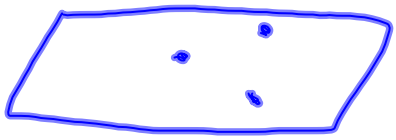
   $p \rightarrow q$

2.. Use the Law of Syllogism to write the statement that follows:

   If a rectangle has four equal sides, then it is a square.
   If a polygon is a square, then it is a regular polygon.

   $p \rightarrow q \quad q \rightarrow r$

3. Sketch a diagram that shows three noncollinear points on one plane.



2-4 Postulates and Diagrams

Postulate - rule accepted without proof

Check the first 11 postulates on the yellow sheet.

Theorem - rule that is proven

Ex 1 State the postulate illustrated by the diagram.

#5

If A then A B B

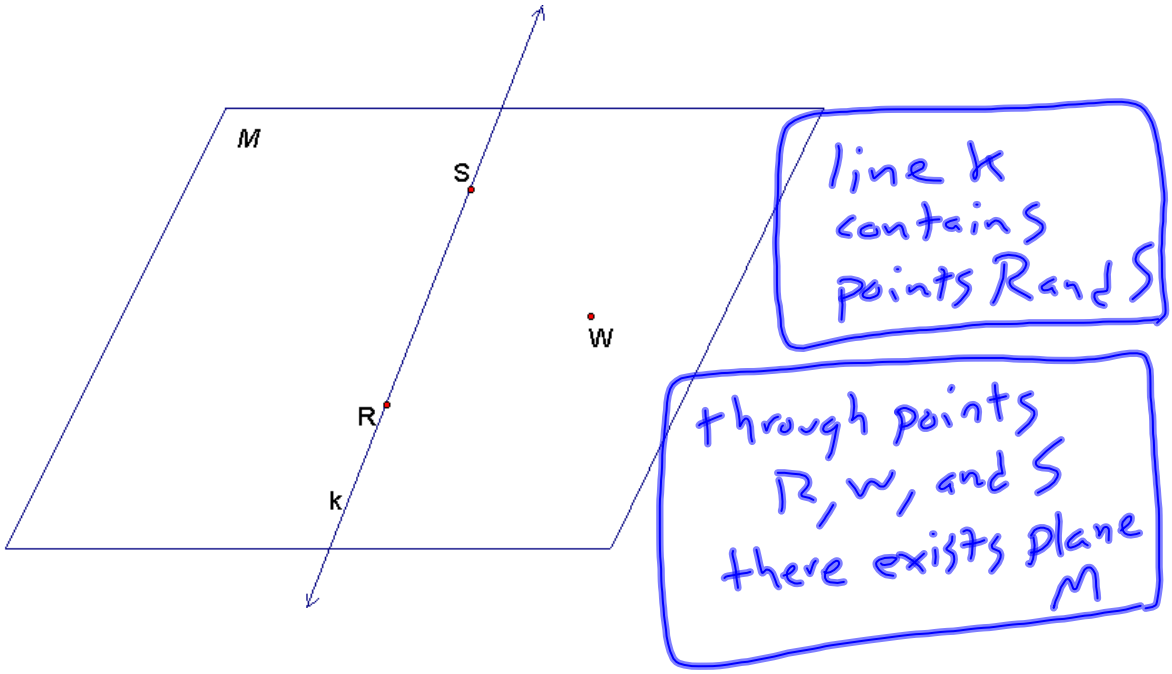
Through any 2 pts. there exists one line.

#10

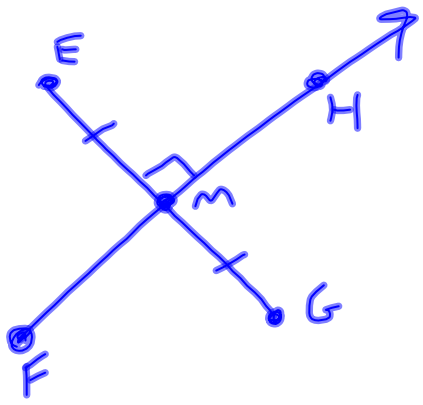
if X Y then X Y

If 2 pts lie in a plane, then the line containing them lies in the plane

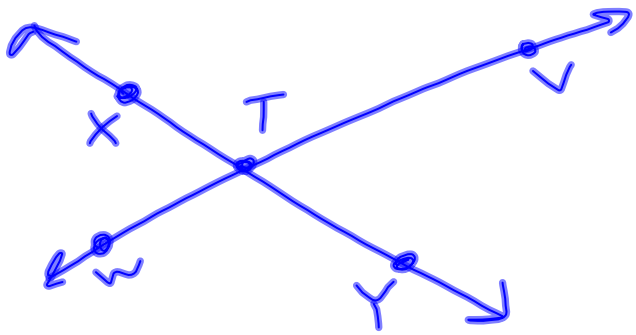
Ex 2 Use the diagram to write specific examples of Postulates 6 and 8.



Ex 3 Sketch a diagram showing $\overrightarrow{FH} \perp \overline{EG}$ at its midpoint M.



Ex 4 Sketch a diagram showing $\overleftrightarrow{XY}$ intersecting $\overleftrightarrow{WV}$ at point T.



Ex. 5 Use the diagram to determine if the statement is true or false.

a. A, B, and C are collinear.

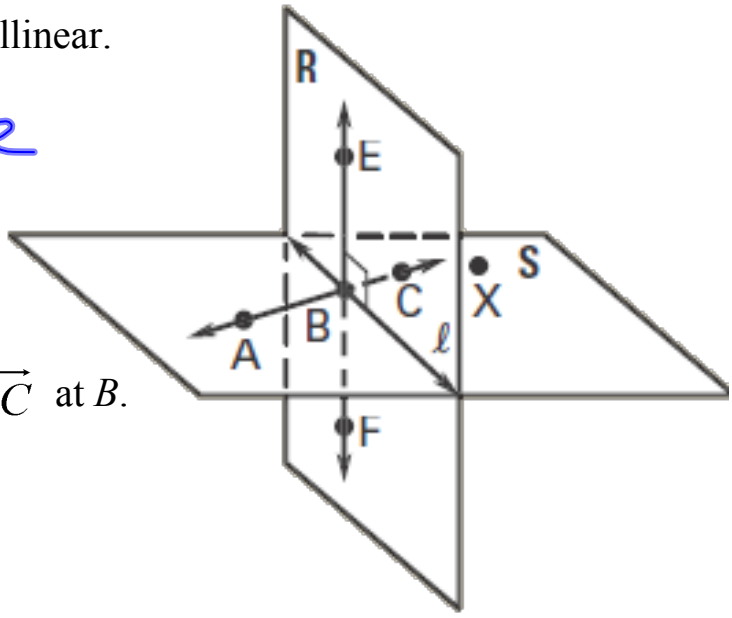
True

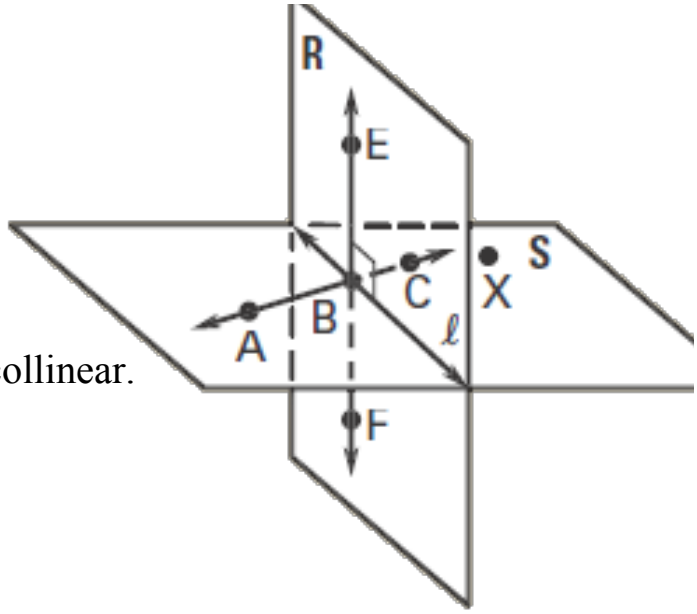
b. $\overleftrightarrow{BC} \perp$ plane R.

False

c. $\overleftrightarrow{EF}$ intersects $\overleftrightarrow{AC}$ at B.

True





d. line $l \perp \overleftrightarrow{AB}$

False

e. Points B, C, and X are collinear.

False

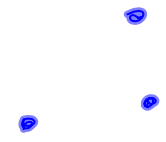
f. $\overleftrightarrow{EF} \perp$ line l

True

Ex. 6 Decide whether the statement is true or false. If it is false, give or sketch a counterexample.

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

False



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

True

Ex. 6 Decide whether the statement is true or false. If it is false, give or sketch a counterexample.

c. Any two planes intersect.

d. Two lines can intersect in more than one point.