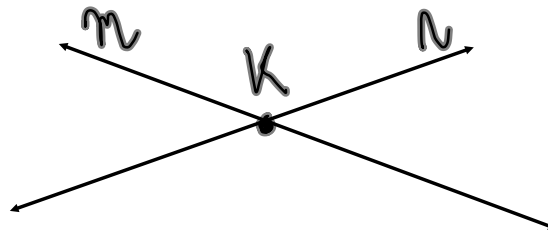


Lesson 2.4

Draw a sketch to illustrate each postulate.

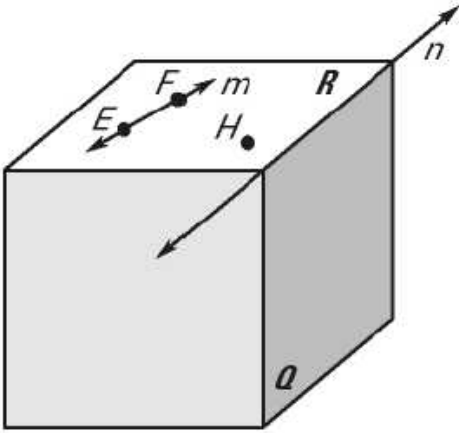
1. If two lines intersect, then their intersection is exactly one point.



2. If two points lie in a plane, then the line containing them lies in the plane.

3. If two planes intersect, then their intersection is a line.

Use the diagram to state and write out the postulate that verifies the truth of the statement.



4. The points E , F , and H lie in a plane (labeled R).

Pos. 8

5. The points E and F lie on a line (labeled m).

Pos. 5

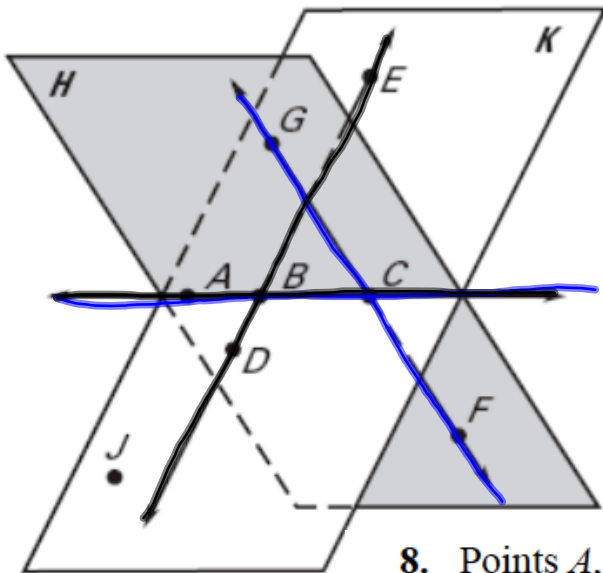
6. The planes Q and R intersect in a line (labeled n).

Pos. 11

7. The points E and F lie in a plane R . Therefore, line m lies in plane R .

Pos. 10

In Exercises 8-15, use the diagram to determine if the statement is *true* or *false*.



8. Points A , B , D , and J are coplanar.

9. $\angle EBA$ is a right angle.

10. Points E , G , and A are collinear.

11. $\overleftrightarrow{FG} \perp$ plane H

12. $\angle ABD$ and $\angle EBC$ are vertical angles.

13. Planes H and K intersect at \overleftrightarrow{AB}

14. \overleftrightarrow{FG} and \overleftrightarrow{DE} intersect.

15. $\angle GCA$ and $\angle CBD$ are congruent angles.

T
F
F
T
T
T
F

Lesson 2.5

Complete the logical argument by giving a reason for each step.

1. $5(2x - 1) = 9x + 2$
 $10x - 5 = 9x + 2$
 $10x = 9x + 7$
 $x = 7$

Given

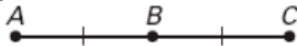
- a. ? Distributive Prop
 b. ? Add. Prop. of =
 c. ? Subtraction Prop. of =

2. $8x - 5 = -2x - 15$
 $10x - 5 = -15$
 $10x = -10$
 $x = -1$

Given

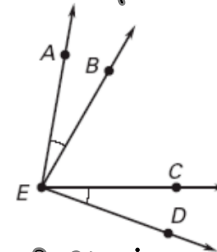
- a. ? Add. Prop. of =
 b. ? Add. Prop. of =
 c. ? Division Prop. of =

3. 1. $AB = BC$
 2. $AC = AB + BC$
 3. $AC = AB + AB$
 4. $AC = 2(AB)$



Given

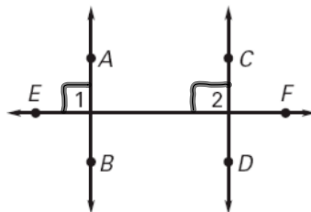
- a. ? Segment Add. Pos.
 b. ? Substitution Prop. of =
 c. ? Distributive Prop.



4. 1. $m\angle AEB = m\angle CED$
 2. $m\angle BEC = m\angle BEC$
 3. $m\angle AEB + m\angle BEC = m\angle CED + m\angle BEC$
 4. $m\angle AEC = m\angle AEB + m\angle BEC$
 5. $m\angle BED = m\angle CED + m\angle BEC$
 6. $m\angle AEC = m\angle BED$

Given

- a. ? Reflexive Prop
 b. ? Add. Prop. of =
 c. ? ~~Add. Pos.~~
 d. ? ~~Add. Pos.~~
 e. ? Substitution Prop. of =



5. $\overleftrightarrow{AB} \perp \overleftrightarrow{EF}, \overleftrightarrow{CD} \perp \overleftrightarrow{EF}$
 $m\angle 1 = 90^\circ$
 $m\angle 2 = 90^\circ$
 $m\angle 1 = m\angle 2$

Given

- a. ? Def. of \perp lines
 b. ? Def. of \perp lines
 c. ? Substitution Prop. of =

Use the property to complete the statement.

6. Reflexive Property of Angle Measure: $m\angle B = \underline{\quad? \quad}$.

$$m\angle B$$

7. Transitive Property of Equality: If $CD = GH$ and $GH = RS$, then $\underline{\quad? \quad}$.

$$\begin{aligned} GH &= CD \\ CD &= RS \end{aligned}$$

$$GH = RS$$

8. Addition Property of Equality: If $x = 3$, then $14 + x = \underline{\quad? \quad}$.

$$14 + x = \textcircled{3 + 14} \quad 17$$

9. Symmetric Property of Equality: If $BC = RL$, then $\underline{\quad? \quad}$.

$$RL = BC$$

0. Substitution Property of Equality: If $m\angle A = 45^\circ$, then $3(m\angle A) = \underline{\quad? \quad}$.

$$3(45) = 135^\circ$$

1. Multiplication Property of Equality: If $m\angle A = 45^\circ$, then $\underline{\quad? \quad} (m\angle A) = 15^\circ$.

$$\frac{1}{3}$$

