

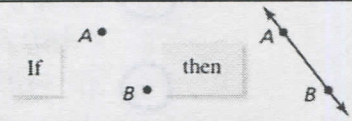
**CYU 2.3 Diagrams & Postulates**

Use when you get it right all by yourself  
**S** Use when you did it all by yourself, but made a silly mistake  
**H** Use when you could do it alone with a little help from teacher or peer  
**G** Use when you completed the problem in a group  
**X** Use when a question was attempted but wrong (get help)  
**N** Use when a question was not even attempted

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Two Point Postulate	1	8	7
Line Point Postulate	2a		
Line Intersection Postulate	2b		
Three Point Postulate	2c	8	
Plane Line Postulate	2d		
Plane Intersection Postulate	9	9	9
Creating Diagrams		3	
Assumptions from Diagrams	4, 5a, 6	4, 5b, 6	4, 6

1. State the postulate illustrated by the diagram.

*two point postulate*



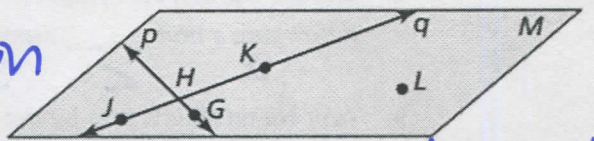
2. Use the diagram to write an example of the postulate.

a. Line- Point Postulate

*Sample: Line g contains J & K*

b. Line Intersection Postulate

*Sample: the intersection of line p & line q is point H.*



c. Three Point Postulate

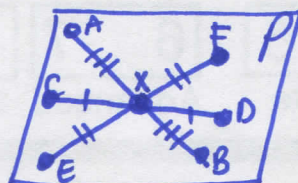
*Sample: through points K, H, & L, there is exactly one plane, plane M.*

d. Plane Line Postulate

*Sample: Points H & G lie in plane M, so line p lies in plane M.*

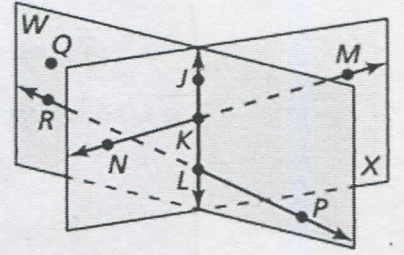
3. Sketch a diagram of the description:

$\overline{AB}$ ,  $\overline{CD}$ , &  $\overline{EF}$  are all in plane P, and point X is the midpoint of all three segments.



4. Use the diagram to determine whether you can assume the statement.

- Planes W & X intersect at  $\overleftrightarrow{KL}$ . **yes**
- Points K, L, M, and N are coplanar. **yes**
- Points Q, J, & M are collinear. **no**
- $\overleftrightarrow{MN}$  and  $\overleftrightarrow{RP}$  intersect. **no**
- $\overleftrightarrow{JK}$  lies in plane X. **yes**
- $\angle PLK$  is a right angle. **no**
- $\angle NKL$  &  $\angle JKM$  are vertical angles. **yes**
- $\angle NKJ$  &  $\angle JKM$  are supplementary angles. **yes**



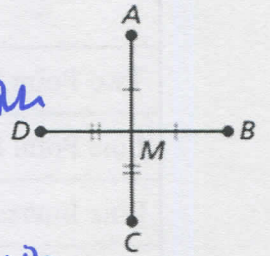
5. Describe & Correct the error in the statement made about the diagram.

- M is the midpoint of  $\overline{AC}$  &  $\overline{BD}$ .

$\overline{AM} \cong \overline{BM}$  &  $\overline{DM} \cong \overline{CM}$ ; no proof M is the midpoint. Simply the point of intersection.

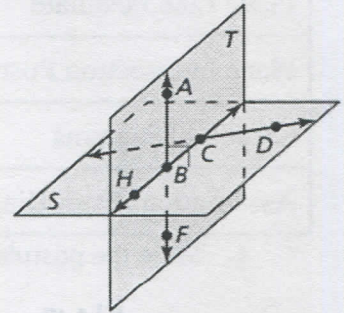
- $\overline{AC}$  intersects  $\overline{BD}$  at a  $90^\circ$  angle, so  $\overline{AC} \perp \overline{BD}$ .

No  $\perp$ , so no proof of  $\perp$  segments. Can only assume vertical  $\angle$ 's & linear pair.



6. Select all the statements about the diagram that you **cannot** conclude.

- A, B, & C are coplanar.
- Plane T intersects plane S in  $\overline{BC}$ .
- $\overline{AB}$  intersects  $\overline{CD}$ .
- H, F, & D are coplanar.
- Plane T  $\perp$  plane S.
- Point B bisects  $\overline{HC}$ .
- $\angle ABH$  &  $\angle HBF$  are a linear pair.
- $\overline{AF} \perp \overline{CD}$ .



7. One way to graph a linear equation is to plot two points whose coordinates satisfy the equation and then connect them with a line. Which postulate guarantees this process works for any linear equation?

Two-point postulate

8. Choose the correct symbol ( $<$ ,  $\leq$ ,  $=$ ,  $\geq$ ,  $>$ ) to go between these two statements: **number of points to determine a line** \_\_\_\_\_ **number of points to determine a plane.**

2 < 3



9. Your friend claims that by the Plane Intersection Postulate, any two planes intersect in a line. Is your friend's interpretation of the Plane Intersection Postulate correct? Explain your reasoning.

no. The postulate says that if two planes intersect they will intersect in a line. But planes can be parallel and never intersect.

**CYU Reflection:** How far can you go: basic, intermediate, or advanced?

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the score you would give yourself.

●	●	●	●	●	●	●	
1	2	3	4	5	6	7	8
Basic		Intermediate			Advanced		Solved ALL!

