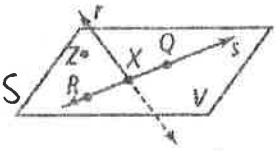
Name Key Class _____ Date _____

1-2 Practice

Form K

Points, Lines, and Planes

Use the figure at the right for Exercises 1–4. Note that line *r* pierces the plane at *X*. It is not coplanar with *V*.



1. What are two other ways to name $\overleftrightarrow{QX}$?
   To start, remember you can name a line by any ? point(s) on the line or by ? lowercase letter(s).
   Two other ways to name $\overleftrightarrow{QX}$ are line ? and ?.

   $\overleftrightarrow{RX}$ $\overleftrightarrow{XR}$ $\overleftrightarrow{XQ}$ $\overleftrightarrow{QR}$ lines

2. What are two other ways to name plane *V*?

   Plane ZRX Plane XQZ

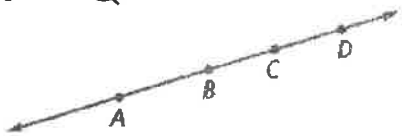
3. Name three collinear points.

   • Q, • R, • X

4. Name four coplanar points.

   • Z • R • X • Q

Use the figure at the right for Exercises 5–7.



5. Name six segments in the figure. To start, remember that a segment is part of a line that consists of ? endpoints.

   2

   Six segments are $\overline{AB}$, $\overline{BC}$, ?, ?, ?, and ?.

   $\overline{CD}$ $\overline{CB}$ $\overline{AC}$ $\overline{AD}$

6. Name the rays in the figure.

   $\overrightarrow{AD}$ $\overrightarrow{BC}$ $\overrightarrow{BD}$

7. a. Name the pairs of opposite rays with endpoint *C*.

   $\overrightarrow{CD}$ $\overrightarrow{CA}$

   b. Name another pair of opposite rays.

   $\overrightarrow{BD}$ and $\overrightarrow{BA}$

For Exercises 8–12, determine whether each statement is *always*, *sometimes*, or *never* true.

8. Plane *ABC* and plane *DEF* are the same plane.

   Sometimes

9. $\overleftrightarrow{DE}$ and $\overleftrightarrow{DF}$ are the same line.

   Sometimes

10. Plane *XYZ* does not contain point *Z*.

    never

11. All the points of a line are coplanar.

    always

12. Two rays that share an endpoint form a line.

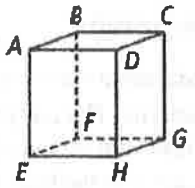
    sometimes

Name _____ Class _____ Date _____

1-2 Practice (continued) Form K

Points, Lines, and Planes

Use the figure at the right for Exercises 13–21.



Name the intersection of each pair of planes. To start, identify the points that both planes contain.

13. planes *DCG* and *EFG*

HG

14. planes *EFG* and *ADH*

$\overleftrightarrow{EH}$

15. planes *BCG* and *ABF*

$\overrightarrow{BF}$

Name two planes that intersect in the given line. To start, identify the planes that contain the given line.

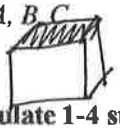
16. $\overleftrightarrow{CD}$ Plane ABC & PlaneCDG

17. $\overleftrightarrow{DH}$ Plane ADH & PlaneCDG

18. $\overleftrightarrow{EF}$ Plane AEF & Plane EFG

Copy the figure. Shade the plane that contains the given points.

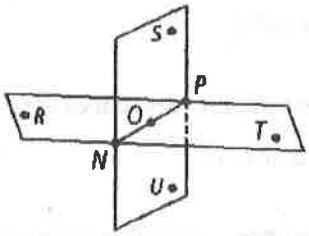
19. *A, B, C*



20. *C, D, H*

21. *E, H, B* (diagonal)

Postulate 1-4 states that any three noncollinear points lie in one plane. Find the plane that contains the first three points listed. Then determine whether the fourth point is in that plane. Write *coplanar* or *noncoplanar* to describe the points.



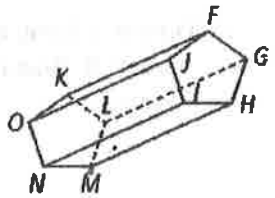
22. *P, T, R, N* coplanar

23. *P, O, S, N* coplanar

24. *T, R, N, U* noncoplanar

25. *P, O, R, S* noncoplanar

Use the diagram at the right. How many planes contain each line and point?



26. $\overleftrightarrow{KL}$ and *G* 1

27. $\overleftrightarrow{HM}$ and *F* 0

28. $\overleftrightarrow{JI}$ and *G* 1

29. $\overleftrightarrow{NM}$ and *M* 2