

Practice 1-3

Points, Lines, and Planes

Refer to the diagram at the right for Exercises 1–15.

1. Name \overleftrightarrow{AB} in another way.
2. Give two other names for plane Q .
3. Why is EBD not an acceptable name for plane Q ?

Are the following sets of points collinear?

4. \overleftrightarrow{AB} and C
5. B and F
6. \overleftrightarrow{EB} and A
7. F and plane Q

Are the following sets of points coplanar?

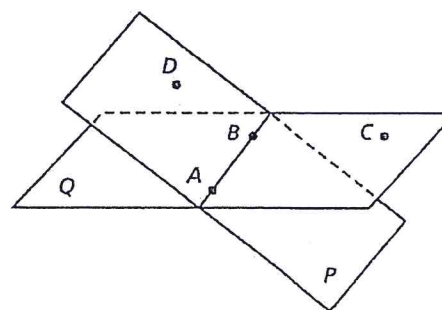
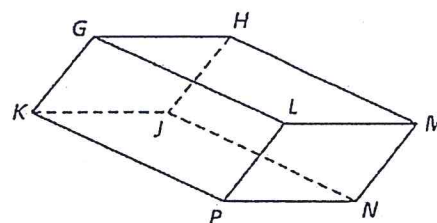
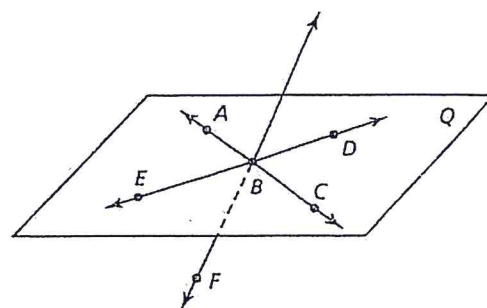
8. E , B , and F
9. \overleftrightarrow{DB} and \overleftrightarrow{FC}
10. \overleftrightarrow{AC} and \overleftrightarrow{ED}
11. \overleftrightarrow{AE} and \overleftrightarrow{DC}
12. F , A , B , and C
13. F , A , B , and D
14. plane Q and \overleftrightarrow{EC}
15. \overleftrightarrow{FB} and \overleftrightarrow{BD}

Find the intersection of the following lines and planes in the figure at the right.

16. \overleftrightarrow{GK} and \overleftrightarrow{LG}
17. planes GLM and LPN
18. planes $GHPN$ and KJP
19. planes HJN and GKL
20. \overleftrightarrow{KP} and plane KJN
21. \overleftrightarrow{KM} and plane GHL

Refer to the diagram at the right.

22. Name plane P in another way.
23. Name plane Q in another way.
24. What is the intersection of planes P and Q ?
25. Are A and C collinear?
26. Are D , A , B , and C coplanar?
27. Are D and C collinear?
28. What is the intersection of \overleftrightarrow{AB} and \overleftrightarrow{DC} ?
29. Are planes P and Q coplanar?
30. Are \overleftrightarrow{AB} and plane Q coplanar?
31. Are B and C collinear?



Practice 1-4

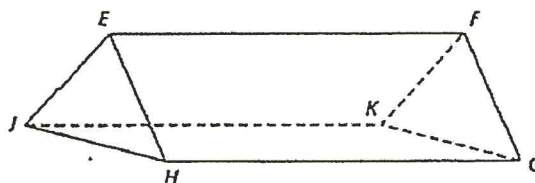
Segments, Rays, Parallel Lines, and Planes

Write true or false.

- \overleftrightarrow{XY} is the same as \overleftrightarrow{YX} .
- \overleftrightarrow{XY} is the same as \overleftrightarrow{YX} .
- If \overleftrightarrow{AB} and \overleftrightarrow{AC} are opposite rays, then they are collinear.
- If two rays have the same endpoint, then they form a line.
- If the union of two rays is a line, then the rays are opposite rays.
- If \overleftrightarrow{PQ} and \overleftrightarrow{PR} are the same rays, then Q and R are the same point.

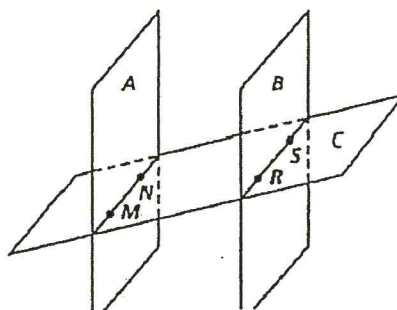
Refer to the diagram at the right.

- Name all segments parallel to \overleftrightarrow{EF} .
- Name all segments parallel to \overleftrightarrow{FG} .
- Name three pairs of skew lines.



Refer to the diagram at the right.

- Which pair(s) of planes is (are) parallel?
- Which pair(s) of planes intersect?
- Which planes intersect in \overleftrightarrow{MN} ?
- Which planes intersect in \overleftrightarrow{RS} ?



Refer to the diagram at the right.

- Name \overleftrightarrow{EF} in another way.
- How many different segments can be named?
- Name a pair of opposite rays with E as an endpoint.
- Name in two different ways the ray opposite \overleftrightarrow{FG} .
- Name \overleftrightarrow{GE} in two other ways.
- Are \overleftrightarrow{EG} and \overleftrightarrow{GE} the same segment?



Draw each of the following.

- parallel planes S , T , and U
- planes R and W intersecting in \overleftrightarrow{PQ}