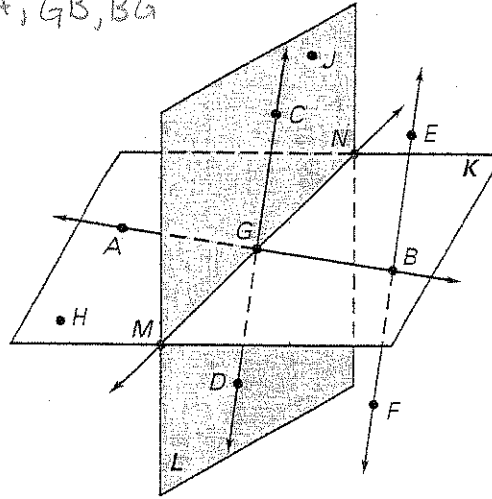


**In Exercises 1-16, use the diagram.**

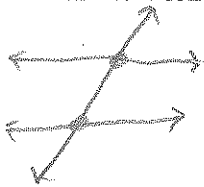
1. Give five other names for  $\overline{AB}$ .  $\overline{BA}, \overrightarrow{AG}, \overrightarrow{GA}, \overrightarrow{GB}, \overrightarrow{BG}$
2. Name four sets of three points that are collinear.  $AGB, NGM, CGD, EBF$
3. Name three points that are coplanar with both plane K and plane L.  $MGN$
4. Name all points that are not coplanar with points A, B, and H.  $JCEFD$
5. Give another name for  $\overline{CG}$ .  $\overline{GC}$
6. Name all rays with endpoint G.  $\overrightarrow{GA}, \overrightarrow{GB}, \overrightarrow{GN}, \overrightarrow{GM}, \overrightarrow{GC}, \overrightarrow{GD}$
7. Name four pairs of opposite rays.
8. Give another name for  $\overrightarrow{FB}$ .  $\overrightarrow{FE}$
9. Are points A, G, and N collinear? **NO**
10. Are points A, G, and N coplanar? **YES**
11. Are points C, D, and G collinear? **YES**
12. Are points C, D, and G coplanar? **Yes\***
13. Name the intersection of  $\overline{AB}$  and  $\overline{MN}$ .  $G$
14. Name the intersection of  $\overline{CD}$  and plane ABH.  $G$
15. Name the intersection of plane K and plane L.  $\overline{MN}$
16. Name the intersection of  $\overline{EF}$  and plane K.  $B$



- $\overrightarrow{GA}$     $\overrightarrow{GB}$   
 $\overrightarrow{GM}$     $\overrightarrow{GN}$   
 $\overrightarrow{GC}$     $\overrightarrow{GD}$   
 $\overrightarrow{BE}$     $\overrightarrow{BF}$

**Sketch the figure described.**

17. Three lines with only two points of intersection



18. Two planes that do not intersect



19. Two rays that intersect at their endpoints



20. Two collinear rays that do not intersect



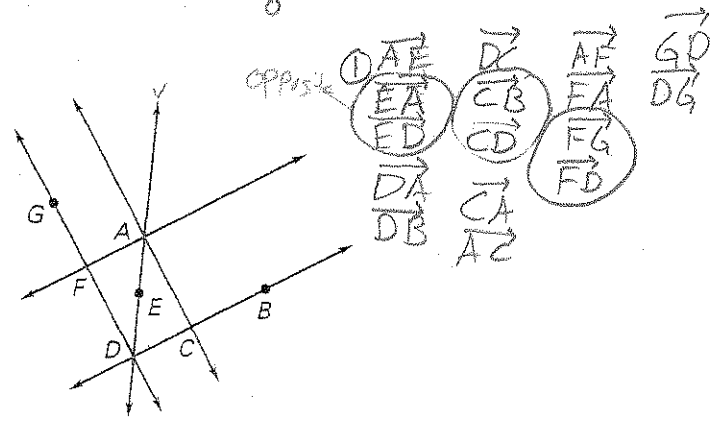
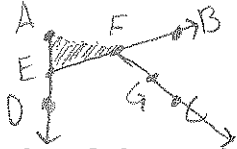
You are given an equation of a line and a point. Use substitution to determine whether the point is on the line.

21.  $y = 3x + 7$ ;  $A(2, 13)$  Yes  
 22.  $y = 4x - 3$ ;  $A(5, 17)$  Yes  
 23.  $2y = -3x - 9$ ;  $A(-1, -3)$  Yes  
 24.  $5x + 4y = 28$ ;  $A(4, -2)$  NO  
 25.  $6y - 7x = 8$ ;  $A(6, 4)$  NO  
 26.  $-2x - 9y = -20$ ;  $A(-8, 4)$  Yes

Graph the inequality on a number line. Tell whether the graph is a segment, a ray or rays, a point, or a line.

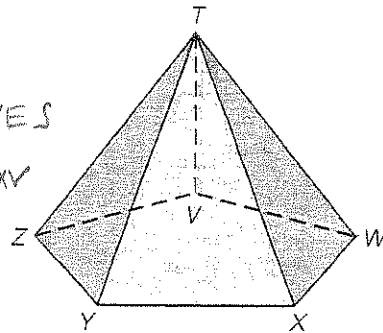
27.  $x \geq 6$  ray  
 28.  $x \leq -10$  ray  
 29.  $-5 \leq x \leq 3$  segment  
 30.  $x \geq 4$  or  $x \leq 7$  segment \*  
 31.  $x \geq 0$  or  $x \leq -2$  rays  
 32.  $x^2 \leq 0$  Point

- Name 15 different rays in the diagram at the right. Then name 3 pairs of opposite rays.
- Draw four noncollinear points  $A, B, C,$  and  $D$ . Sketch  $\overline{AD}$  and add a point  $E$  on  $\overline{AD}$ . Sketch  $\overline{EB}$  and add a point  $F$  on  $\overline{EB}$ . Sketch  $\overline{FC}$  and add a point  $G$  on  $\overline{FC}$ . Sketch plane  $AEF$ .



In Exercises 3-8, use the diagram at the right.

- Name the intersection of plane  $YZT$  and plane  $XYT$ .  $\overline{YT}$
- Name the intersection of plane  $WXT$  and plane  $YZT$ .  $T$
- Are points  $Z, V,$  and  $W$  collinear? Are they coplanar? NO, YES
- Name three planes that intersect at point  $W$ .  $WVT, WXT, WXV$
- Name three lines that intersect at point  $Y$ .  $\overline{YT}, \overline{YX}, \overline{ZY}$
- Do the planes  $YXT, WXT,$  and  $WVT$  intersect in one line? NO



In Exercises 9-12, you are given two equations of lines and a point. Do the lines intersect at the given point? Explain your reasoning.

9.  $y = 5x + 1$   $1 = 5(0) + 1$  ✓  
 $y = -5x + 1$   $1 = -5(0) + 1$  ✓  
 $A(0, 1)$  YES
10.  $y = -2x + 6$   $3 = -2(3) + 6$  ✗  
 $y = 3x - 4$   $3 = 3(3) - 4$  ✗  
 $A(3, 3)$  NO