

**LESSON 1.1**

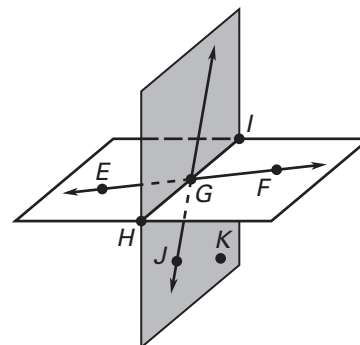
**Practice B**

For use with pages 2–8

LESSON 1.1

Use the diagram to decide whether the given statement is true or false.

1. Points  $H$ ,  $I$ , and  $G$  are collinear.
2. Points  $H$ ,  $I$ , and  $J$  are coplanar.
3.  $\overrightarrow{EG}$  and  $\overrightarrow{FG}$  are opposite rays.
4. All points on  $\overrightarrow{GI}$  and  $\overrightarrow{GF}$  are coplanar.
5. The intersection of  $\overrightarrow{EF}$  and plane  $JKH$  is  $\overleftrightarrow{HI}$ .
6. The intersection of  $\overleftrightarrow{EF}$ ,  $\overleftrightarrow{HI}$ , and  $\overleftrightarrow{JG}$  is point  $G$ .
7. The intersection of plane  $EGH$  and plane  $JGI$  is point  $G$ .
8. The intersection of plane  $EFI$  and plane  $JKG$  is  $\overleftrightarrow{HG}$ .

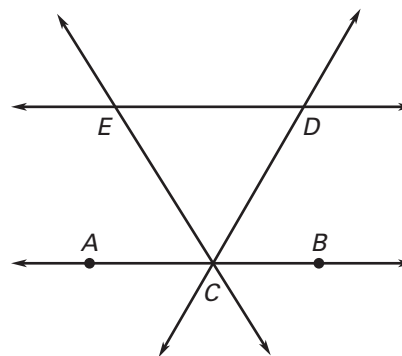


Sketch the figure described.

- |  |  |
|--|--|
| 9. Two rays that do not intersect              | 10. Three planes that intersect in one line    |
| 11. Three lines that intersect in three points | 12. A ray that intersects a plane in one point |

In Exercises 13–15, use the diagram.

13. Name 12 different rays.
14. Name a pair of opposite rays.
15. Name 3 lines that intersect at point  $C$ .



16. Sketch four noncollinear points  $A$ ,  $B$ ,  $C$ , and  $D$ . Then sketch  $\overline{AB}$ ,  $\overrightarrow{BC}$ , and  $\overleftrightarrow{AD}$ .
17. Sketch plane  $M$  intersecting plane  $N$ . Then sketch plane  $O$  so that it intersects plane  $N$ , but not plane  $M$ .

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LESSON  
1.1**Practice B** *continued**For use with pages 2–8*

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

18.  $y = 5x + 3; A(1, 8)$

19.  $y = -x + 3; A(6, 3)$

20.  $y = -3x - 6; A(2, 0)$

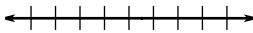
21.  $2x - y = 7; A(3, -1)$

22.  $x + 6y = 40; A(-10, 5)$

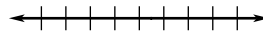
23.  $-x - 4y = -14; A(-6, 2)$

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

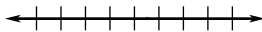
24.  $x \geq 2$



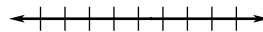
25.  $2 \leq x \leq 5$



26.  $x \leq 0$  or  $x \geq 8$



27.  $|x| \leq 0$

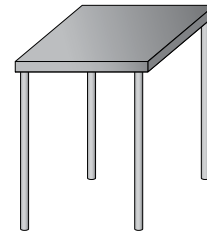


**28. Counter Stools** Two different types of stools are shown below.

- a. One stool rocks slightly from side to side on your kitchen floor. Which of the two stools could this possibly be? *Explain* why this might occur.
- b. Suppose that each stool is placed on a flat surface that is slightly sloped. Do you expect either of the stools to rock from side to side? *Explain* why or why not.



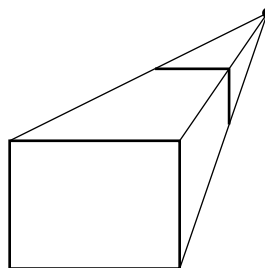
Three-legged stool



Four-legged stool

**29. Perspective Drawings** Recall from the text, that a perspective drawing is drawn using vanishing points.

- a. Does the drawing at the right represent a perspective drawing? *Explain* why or why not.
- b. Using heavy dashed lines, draw the hidden lines of the prism.
- c. Redraw the prism so that it uses two vanishing points.

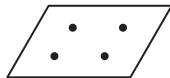


# Answers

## Lesson 1.1

### Practice Level A

1.  $\overrightarrow{BA}$  and line  $h$  2. points  $B, C,$  and  $D$   
 3. plane  $ABE$  4. point  $E$  5.  $\overline{DC}$   
 6.  $\overrightarrow{BA}, \overrightarrow{BC},$  and  $\overrightarrow{BD}$  7.  $\overrightarrow{BC}$  and  $\overrightarrow{BD}$  8.  $\overrightarrow{CB}$   
 9. Sample answer: 10. Sample answer:

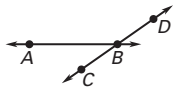


11. Sample answer: 12. Sample answer:



13. yes 14. yes 15. no 16. yes 17. point  $J$   
 18. point  $J$  19.  $\overline{MN}$  20.  $\overline{JK}$  and  $\overline{JL}, \overline{JM}$  and  $\overline{JN}, \overline{JP}$  and  $\overline{JQ}$  21.  $\overline{XZ}, \overline{ZX}, \overline{YZ}, \overline{ZY}, \overline{ZV}, \overline{ZW}, \overline{VW},$  and  $\overline{WV}$   
 22.  $\overline{ZX}$  and  $\overline{ZY}, \overline{ZV}$  and  $\overline{ZW}$  23.  $\overline{XY}$  and  $\overline{VW}$

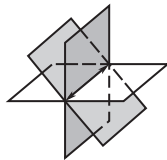
24. Sample answer:



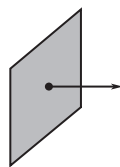
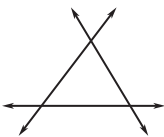
25. yes 26. no 27. no 28. intersecting lines  
 29. intersecting planes 30. the intersection of a line and a plane 31. All four legs are not of equal length so the bottom of the legs are not coplanar.

### Practice Level B

1. true 2. true 3. false 4. true 5. false  
 6. true 7. false 8. true  
 9. Sample answer: 10. Sample answer:

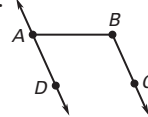


11. Sample answer: 12. Sample answer:

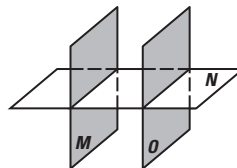


13.  $\overrightarrow{AB}, \overrightarrow{BA}, \overrightarrow{AC}, \overrightarrow{CA}, \overrightarrow{BC}, \overrightarrow{CB}, \overrightarrow{CD}, \overrightarrow{DC}, \overrightarrow{EC}, \overrightarrow{CE}, \overrightarrow{ED}, \overrightarrow{DE}$   
 14.  $\overrightarrow{CA}$  and  $\overrightarrow{CB}$   
 15.  $\overrightarrow{EC}, \overrightarrow{CD}, \overrightarrow{AB}$

16. Sample answer:



- 17.



18. yes 19. no 20. no 21. yes 22. no 23. no



ray

segment

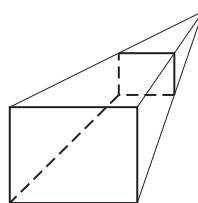


rays

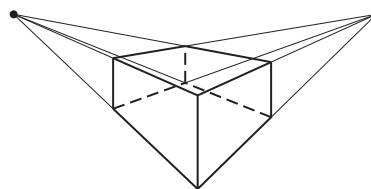
point

28. a. four-legged stool; Possible explanation: The tips of the 4 legs are not coplanar.  
 b. Possible explanation: The three-legged stool will not rock because the tips of its legs will always be coplanar. The four-legged stool may rock if the tips of its legs are not coplanar.  
 29. a. Yes, it has one vanishing point.

- b.



- c. Sample answer:



### Practice Level C

1.  $\overrightarrow{BA}, \overrightarrow{AG}, \overrightarrow{GA}, \overrightarrow{BG}$  and  $\overrightarrow{GB}$  2.  $A, G,$  and  $B; C, G,$  and  $D; E, B,$  and  $F; M, G,$  and  $N$   
 3. points  $M, G,$  and  $N$   
 4. points  $C, D, E, F,$  and  $J$  5.  $\overline{GC}$   
 6.  $\overrightarrow{GA}, \overrightarrow{GB}, \overrightarrow{GC}, \overrightarrow{GD}, \overrightarrow{GM},$  and  $\overrightarrow{GN}$   
 7.  $\overrightarrow{GA}$  and  $\overrightarrow{GB}, \overrightarrow{GC}$  and  $\overrightarrow{GD}, \overrightarrow{GM}$  and  $\overrightarrow{GN}, \overline{BE}$  and  $\overline{BF}$  8.  $\overline{FE}$  9. no 10. yes 11. yes  
 12. yes 13. point  $G$  14. point  $G$  15.  $\overline{MN}$   
 16. point  $B$