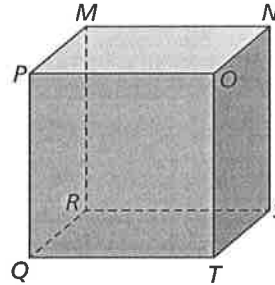


# 1.1

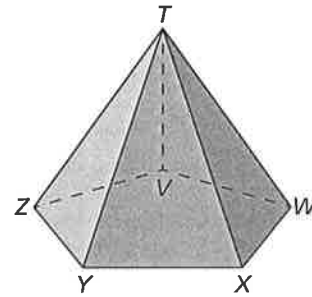
## Enrichment and Extension

### Points, Lines, and Planes

1. Name the three planes that intersect at point  $P$ .
2. Name the intersection of plane  $PQO$  and plane  $NMP$ .
3. Name three lines that intersect at point  $S$ .
4. Are points  $P$ ,  $M$ , and  $Q$  collinear?  
Are they coplanar?



5. Name the intersection of plane  $XYZ$  and plane  $TVW$ .
6. Name the two planes that intersect at  $\overline{XW}$ .
7. Name three planes that intersect at point  $Z$ .
8. In the figure at right, are there any places where at least four planes intersect? Explain your reasoning.



An equation in two-dimensional space can be written in the standard form  $AX + BY = C$ . The standard form of a linear equation in three-dimensional space can be written as  $AX + BY + CZ = D$ , where the point  $(x, y, z)$  is a point on the line.

**Determine if the given two lines intersect at the given point. Explain your reasoning.**

9.  $3x + 2y + 4z = 12$   
 $x + y + 2z = 6$   
 $(0, 4, 1)$

10.  $-2x - 4y + z = 8$   
 $4x + 2y = -5$   
 $(-2, 0, 3)$



# Puzzle Time

## What Did The Point Say To The Segment?

A	B	C	D	E	F
G	H	I	J		





Complete each exercise. Find the answer in the answer column. Write the word under the answer in the box containing the exercise letter.

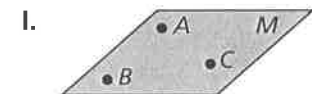
$\overline{AB}$ FOR
true ANT
C BECAUSE
line I'LL
plane $ABC$ A
ray DOOR
coplanar HALFWAY
A IN

Complete each sentence.

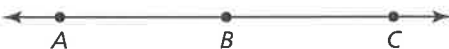
- A. Through any two points there is exactly one \_\_\_\_\_.
- B. Through any three points which are not collinear, there is exactly one \_\_\_\_\_.
- C. \_\_\_\_\_ points lie on the same line.
- D. \_\_\_\_\_ points lie on the same plane.

Name each figure shown in the diagram.

- E. 
- F. 
- G. 
- H. 



- J.  $\overline{AB}$  and  $\overline{AC}$  are opposite rays. True or false?



$\overline{AB}$ THE
$BA$ TEACHER
collinear YOU
$B$ CALLED
false SPLIT
point LOCKS
plane MEET
$\overline{AB}$ MIDDLE