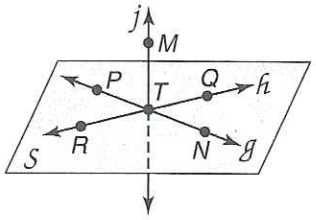
NAME _____ DATE _____ PERIOD ____

1-1 Practice

Points, Lines, and Planes

Refer to the figure.



1. Name a line that contains points T and P.

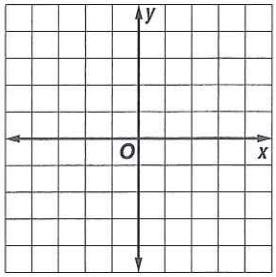
2. Name a line that intersects the plane containing points Q, N, and P.

3. Name the plane that contains $\overleftrightarrow{TN}$ and $\overleftrightarrow{QR}$.

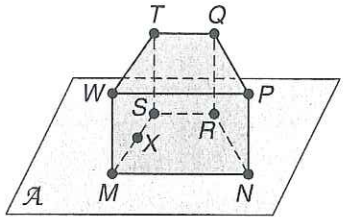
Draw and label a figure for each relationship.

4. $\overleftrightarrow{AK}$ and $\overleftrightarrow{CG}$ intersect at point M in plane $\mathcal{T}$.

5. A line contains $L(-4, -4)$ and $M(2, 3)$. Line q is in the same coordinate plane but does not intersect $\overleftrightarrow{LM}$. Line q contains point N.



Refer to the figure.



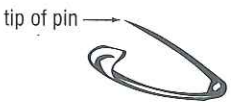
6. How many planes are shown in the figure?

7. Name three collinear points.

8. Are points N, R, S, and W coplanar? Explain.

VISUALIZATION Name the geometric term(s) modeled by each object.

9. 

10. 

11. 

12. a car antenna

13. a library card

NAME _____ DATE _____ PERIOD ____

1-1 Reading to Learn Mathematics

Points, Lines, and Planes

Pre-Activity **Why do chairs sometimes wobble?**

Read the introduction to Lesson 1-1 at the top of page 6 in your textbook.

- Find three pencils of different lengths and hold them upright on your desk so that the three pencil points do not lie along a single line. Can you place a flat sheet of paper or cardboard so that it touches all three pencil points?
- How many ways can you do this if you keep the pencil points in the same position?
- How will your answer change if there are four pencil points?

Reading the Lesson

1. Complete each sentence.

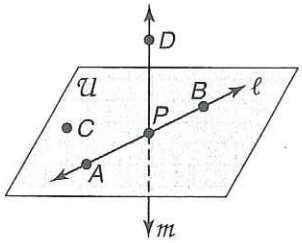
a. Points that lie on the same line are called _____ points.

b. Points that do not lie in the same plane are called _____ points.

c. There is exactly one _____ through any two points.

d. There is exactly one _____ through any three noncollinear points.

2. Refer to the figure at the right. Indicate whether each statement is true or false.



a. Points A, B, and C are collinear.

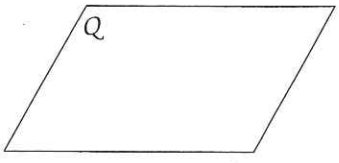
b. The intersection of plane ABC and line m is point P.

c. Line ℓ and line m do not intersect.

d. Points A, P, and B can be used to name plane $\mathcal{U}$.

e. Line ℓ lies in plane ACB.

3. Complete the figure at the right to show the following relationship: Lines ℓ, m, and n are coplanar and lie in plane Q. Lines ℓ and m intersect at point P. Line n intersects line m at R, but does not intersect line ℓ.



Helping You Remember

4. Recall or look in a dictionary to find the meaning of the prefix *co-*. What does this prefix mean? How can it help you remember the meaning of *collinear*?