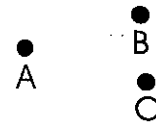


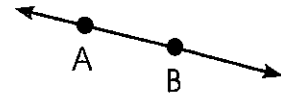
Identifying Lines and Parts of Lines

Points, Lines, and Angles

A **point** is a position in a plane or in space that has no dimensions. These points are named, or written, points A, B, and C, or point A, point B, and point C.



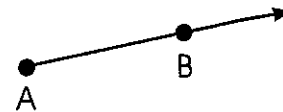
A **line** is a set of points in a straight path that extends infinitely in both directions. This line is named \overleftrightarrow{AB} or \overleftrightarrow{BA} . Any two points on a line may be used to name it.



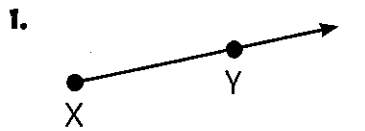
A **line segment** is a finite portion of a line that has two endpoints. This line segment is named \overline{AB} or \overline{BA} . A segment must be named by its two endpoints.

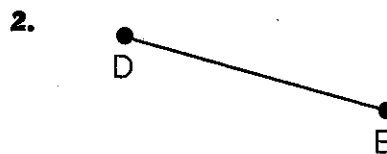


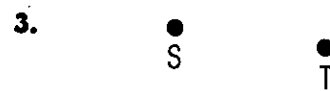
A **ray** is a portion of a line that extends from one endpoint infinitely in one direction. This ray is named \overrightarrow{AB} . The endpoint of a ray is written first, and any point on the ray may be used next.



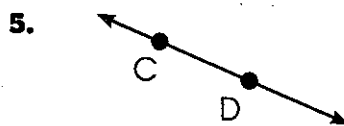
Name each point, line, line segment, or ray.

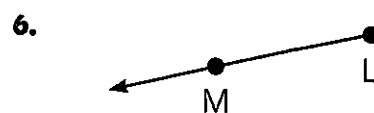


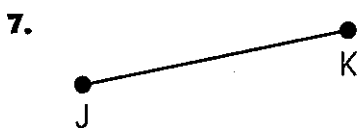


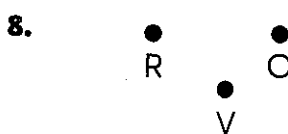


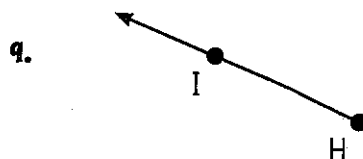












Name: _____

Date: _____

Drawing Lines and Parts of Lines

Points, Lines, and Angles

Draw and label each of the following.

1. \overleftrightarrow{AB}

2. points C and D

3. \overline{RS}

4. points L, M, and N

5. \overrightarrow{MN}

6. \overleftrightarrow{JK}

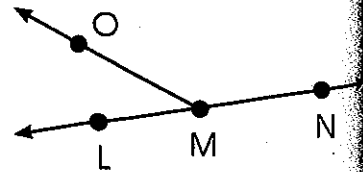
Use the figure to the right to answer each question.

7. Name four points. _____

8. Name two line segments. _____

9. Name three rays. _____

10. Name the line three ways. _____



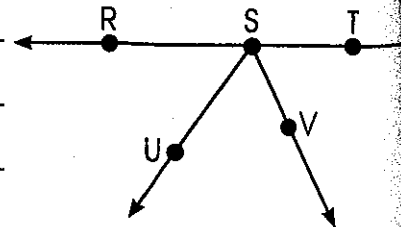
Use the figure to the right to answer each question.

11. Name five points. _____

12. Name two line segments. _____

13. Name four rays. _____

14. Name the line three ways. _____



ISBN



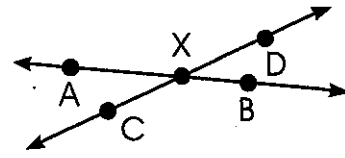
781

Intersecting and Parallel Lines

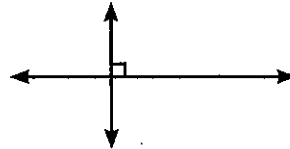
Points, Lines, and Angles

Intersecting lines are lines that cross each other at exactly one point, called the **point of intersection**.

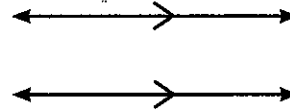
Point X is the point of intersection of \overleftrightarrow{AB} and \overleftrightarrow{CD} .



Perpendicular lines are two lines that form a right angle at their point of intersection.

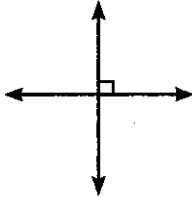


Parallel lines are two lines that never intersect.

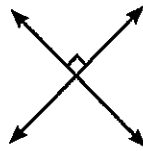


Identify each figure as parallel or perpendicular.

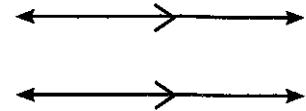
1.



2.



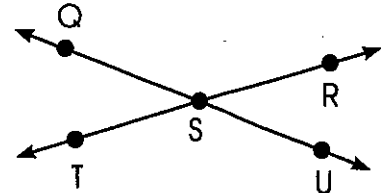
3.



Use the figure to the right to answer each question.

4. Name the point of intersection. _____

5. Name the two lines that intersect. _____



Draw and label each of the following.

6. \overleftrightarrow{LM} intersects \overleftrightarrow{NO} at point P

7. Y is the point at which \overleftrightarrow{XZ} intersects \overleftrightarrow{WV}

8. \overleftrightarrow{HI} is perpendicular to \overleftrightarrow{JK}

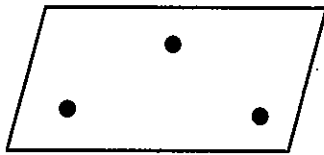
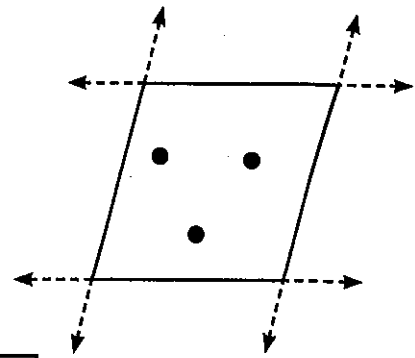
9. \overleftrightarrow{RS} is parallel to \overleftrightarrow{TU}

Identifying Planes

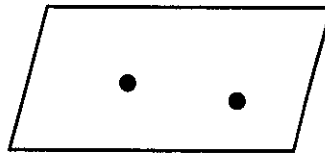
A **plane** is a flat surface that extends infinitely in all directions. Three points that are not collinear are needed to determine a plane.

When three or more points that are not collinear lie in the same plane, they are **coplanar**.

Points, Lines, and Angles



Points are coplanar.



Points are not coplanar.

Decide whether each set of points determines a plane. Circle Yes or No.

1. • A

Yes No

• B

2. • C • E

Yes No

• D

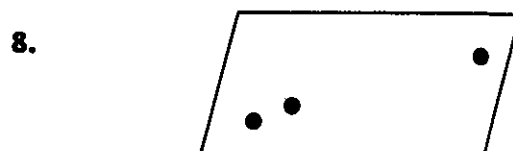
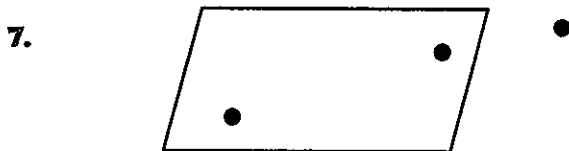
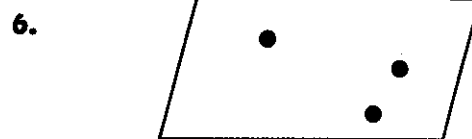
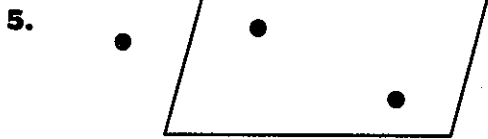
3. • F • G • H

Yes No

4. • I

Yes No

Identify the points in each figure as coplanar or not coplanar.



Review**Points, Lines, and Angles**

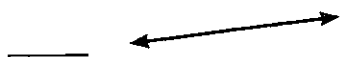
Write the letter for the correct term beside each definition.

1. _____ The point at which two lines intersect
2. _____ A set of points in a straight path that extends infinitely in both directions
3. _____ Two lines that form a right angle at their point of intersection
4. _____ Position in space, often represented by a dot
5. _____ A finite portion of a line that has two endpoints
6. _____ Three or more points that lie in the same line
7. _____ A point that bisects a line segment
8. _____ Lines in the same plane that never intersect
9. _____ A portion of a line that extends from one endpoint infinitely in one direction
10. _____ A flat surface that extends infinitely in all directions
11. _____ Two rays that share an endpoint and extend in opposite directions to form a line
12. _____ Something that relates to or resembles a line
13. _____ Three or more points that lie in the same plane
14. _____ If three points are coplanar, then the line containing two of the points is in the same plane.

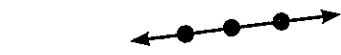
- | |
|--------------------------|
| A. opposite rays |
| B. point |
| C. ray |
| D. point of intersection |
| E. linear |
| F. midpoint |
| G. parallel lines |
| H. collinear points |
| I. perpendicular lines |
| J. line segment |
| K. line |
| L. plane |
| M. coplanar points |
| N. flat-plane rule |

Write the letter for the correct term beside each diagram.

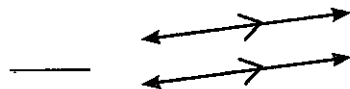
15.



17.



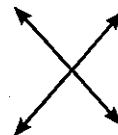
19.



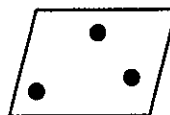
16.



18.



20.



- | |
|-----------------------|
| A. intersecting lines |
| B. line |
| C. line segment |
| D. parallel lines |
| E. coplanar points |
| F. collinear points |