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Introduction

Each book in the *Power Practice*™ series contains dozens of ready-to-use activity pages to provide students with skill practice. The fun activities can be used to supplement and enhance what you are already teaching in your classroom. Give an activity page to students as independent class work, or send the pages home as homework to reinforce skills taught in class. An answer key is included at the end of each book to provide verification of student responses.

Geometry provides students with an introduction to and practice of the basic concepts of plane geometry. The topics covered in this resource include lines and segments, plane figures, angles, measurement, and transformations. Students also have opportunities to use algebraic equations to solve variables present in geometric figures. The activities provide excellent supplementation for textbooks or any comprehensive study of geometry.

Use these ready-to-go activities to "recharge" skill review and give students the power to succeed!

Name _____ Date _____

Geometric Vocabulary

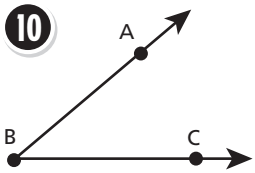
Geometry has its own vocabulary to describe certain types of geometric objects. Match each term in the word box to its definition. Use the same terms to label the illustrations.

ray	angle	line	line segment
plane	point	collinear	coplanar

1. _____ This is a geometric object with no dimensions. It is only a location.
2. _____ This is a collection of points along a straight path. It has no endpoints.
3. _____ This describes points that lie on the same line.
4. _____ This geometric object is a flat surface that extends endlessly in all directions.
5. _____ This describes points that lie on the same plane.
6. _____ This is a part of a line that has two endpoints.
7. _____ This is a part of a line that has only one endpoint.
8. _____ This geometric object is formed from two rays with a common endpoint.

9. 

_____

10. 

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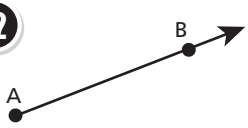
12. 

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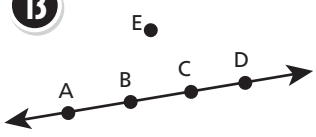
13. 

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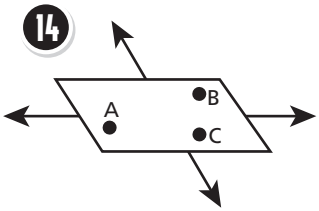
14. 

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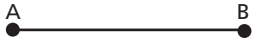
15. 

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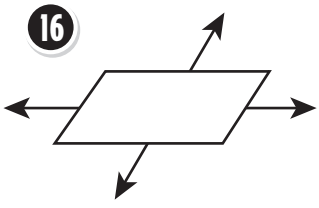
16. 
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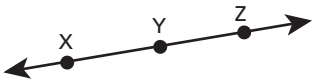
Name _____ Date _____

Identify Lines, Line Segments, and Rays

Points, lines, and planes are the building blocks of geometry.



$\overleftrightarrow{XY}$ $\overleftrightarrow{YZ}$ $\overleftrightarrow{XZ}$

These name **lines** in the diagram. Lines have no endpoint, but continue on in both directions.

$\overrightarrow{AB}$ $\overrightarrow{AC}$ $\overrightarrow{BC}$

These name **rays** in the diagram. Rays have an endpoint and continue in a single direction.

$\overline{DE}$ $\overline{ED}$

These name **line segments.** A line segment has two endpoints.

Complete.

1. Give three names for this line.

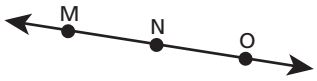
   _____ _____ _____

2. Name three rays.

   _____ _____ _____

3. Name three line segments.

   _____ _____ _____



4. Give three names for this line.

   _____ _____ _____

5. Name three rays.

   _____ _____ _____

6. Name three line segments.

   _____ _____ _____

Name _____ Date _____

Name Lines, Line Segments, and Rays

symbol: $\overleftrightarrow{\ }$

To name a line, give two points along that line. Place the symbol for line over the top. The points can be written in either order.

$\overleftrightarrow{MO}$ $\overleftrightarrow{OM}$

symbol: $\overrightarrow{\ }$

To name a ray, give the starting point first, then a following point on the ray. The name can only be written in the direction the ray travels.

$\overrightarrow{RT}$ $\overrightarrow{RX}$

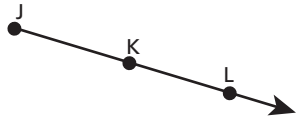
symbol: $\overline{\ }$

To name a segment, give two points that mark a segment. The points can be written in either order.

$\overline{AB}$ $\overline{BA}$

Circle the correct ways to name each of the following.

1



This is a ray.

$\overrightarrow{JK}$ $\overrightarrow{KL}$ $\overrightarrow{LK}$

$\overline{LJ}$ $\overleftrightarrow{JK}$ $\overrightarrow{JL}$

2

This is a line.

$\overleftrightarrow{RU}$ $\overleftrightarrow{UV}$ $\overleftrightarrow{RV}$

$\overleftrightarrow{VU}$ $\overrightarrow{UV}$ $\overline{RV}$

3

This is a line segment.

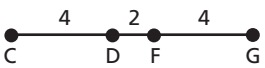
$\overline{EF}$ $\overleftrightarrow{FX}$ $\overline{XF}$

$\overline{EX}$ $\overleftrightarrow{XF}$ $\overline{FE}$

Name _____ Date _____

Find Lengths of Line Segments

Because a line segment has two endpoints, it has a definite length.

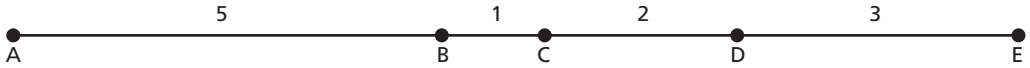


The length of $\overline{CD}$ is 4 units. Write the length as $\overline{CD} = 4$.

Two line segments that have the same length are congruent.

In this diagram $\overline{FG}$ is congruent to $\overline{CD}$.

Write this congruency as $\overline{FG} \cong \overline{CD}$.



Find the length of these line segments.

1. $\overline{AB}$ = _____
2. $\overline{BC}$ = _____
3. $\overline{CD}$ = _____
4. $\overline{DE}$ = _____
5. $\overline{AC}$ = _____
6. $\overline{DA}$ = _____
7. $\overline{EA}$ = _____
8. $\overline{DB}$ = _____
9. $\overline{AD}$ = _____
10. $\overline{BE}$ = _____
11. $\overline{CE}$ = _____
12. $\overline{AE}$ = _____

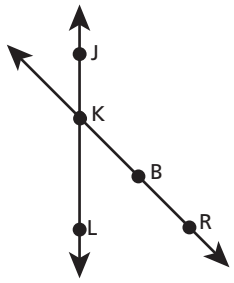
Name line segments that are congruent to the following:

13. $\overline{AB} \cong$ _____
14. $\overline{DE} \cong$ _____
15. $\overline{EC} \cong$ _____
16. $\overline{BD} \cong$ _____

Name _____ Date _____

Collinear Points and Line Segments

Collinear points are points that lie on the same line.

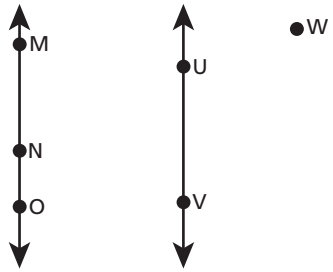


Points J and L are on the same line.
They are collinear.

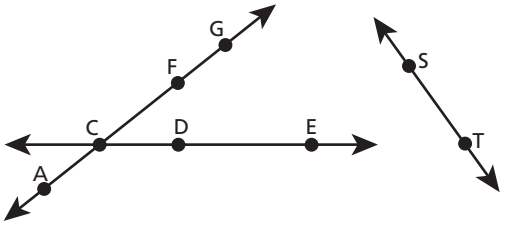
Points J and B are not on the same line.
They are not collinear.

$\overline{JK}$ and $\overline{LK}$ are collinear. $\overline{RB}$ and $\overline{JK}$ are not.

Read each statement. Use the diagram and write if the statement is **true** or **false**.



1. Point M and Point U are collinear. _____
2. Point N and Point O are collinear. _____
3. $\overline{MN}$ and $\overline{UV}$ are not collinear. _____
4. $\overline{UV}$ and $\overline{ON}$ are collinear. _____
5. Point W and Point V are collinear. _____

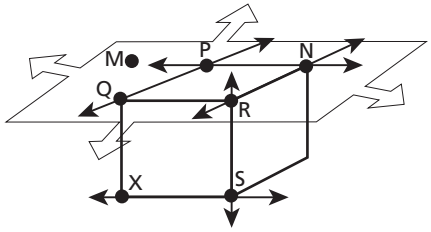


6. Point C and Point G are collinear. _____
7. $\overline{AC}$ and $\overline{DE}$ are collinear. _____
8. $\overline{GF}$ and $\overline{ST}$ are not collinear. _____
9. Point E and Point S are collinear. _____
10. Point F and Point A are collinear. _____
11. Point C and Point E are not collinear. _____
12. $\overline{AC}$ and $\overline{GF}$ are collinear. _____

Name _____ Date _____

Identify Objects in a Plane

Each face of a cube lies on a different **plane.** A plane is a flat surface extending indefinitely in all directions. One of these planes is represented in the diagram.



Point M and Point N are on this plane. They are coplanar.

Point S does not lie on the same plane.

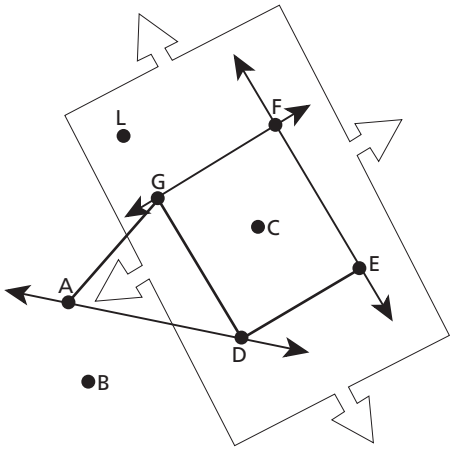
$\overleftrightarrow{PQ}$ and $\overleftrightarrow{RN}$ lie on the same plane. They are coplanar.

$\overleftrightarrow{PQ}$ and $\overleftrightarrow{RS}$ are not on the same plane.

Use the diagram above to solve.

1. Name two points that are coplanar to Point P. _____
2. Name a point that is not coplanar to Point P. _____
3. Name a line that is coplanar to $\overleftrightarrow{RN}$. _____
4. Name a line that is not coplanar to $\overleftrightarrow{RN}$. _____
5. Name all the points shown that are coplanar to Point M.

_____



6. Name a point that is not coplanar to Point L.

_____

7. Name a line that is coplanar to $\overleftrightarrow{FE}$. _____
8. Name a line that is not coplanar to $\overleftrightarrow{FE}$. _____
9. Name two points that are coplanar to Point C.

_____

10. Name two line segments that are coplanar to $\overline{ED}$.

_____