

Questions on pages 5-7?

We will be taking our second content mastery quiz shortly.

Look over pages 5-7, also page 8.

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7. How many lines can be drawn through a single point?

Collinear points are points that are located on the same line.

8. Use the diagram shown prior to Question 1.

a. Name three points that are collinear.

A, C, E or
E, D, B

b. Name three points that are not collinear.

A, B, C or
D, B, C or others...

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1.1 Points, Lines, Planes, Rays, and Line Segments 5

1

A **plane** is described as a flat surface. A plane has an infinite length and width, but no depth, and extends infinitely in all directions. One real-world model of a plane is the surface of a still

body of water. Three non-collinear points describe a unique plane, but planes are usually named using one italic letter located near a corner of the plane as drawn.

Three planes can intersect in a variety of ways or may not intersect at all.

Figure 1 Figure 2 Figure 3 Figure 4 Figure 5

Line
p, w, z in line
w, z in a line

one point

no intersection

9. Describe the intersection of planes p , w , and z in each figure.

a. Figure 1

b. Figure 2

c. Figure 3

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11. Sketch and describe all possible ways that a line and a plane can intersect.

Intersect in one point

Intersect in one line

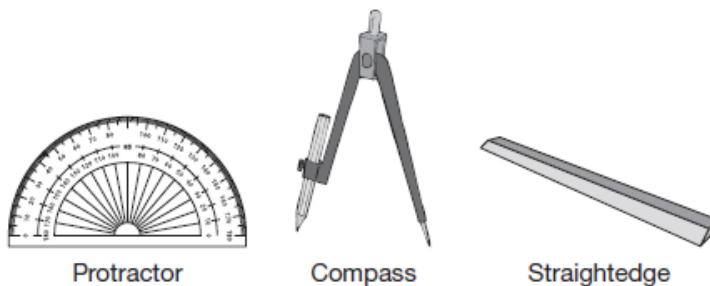
no intersection

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You can use many tools to create geometric figures. Some tools, such as a ruler or a protractor, are classified as measuring tools. A compass is a tool used to create arcs and circles.

A straightedge is a ruler with no numbers. It is important to know when to use each tool.



- When you sketch a geometric figure, the figure is created without the use of tools.
- When you draw a geometric figure, the figure is created with the use of tools such as a ruler, straightedge, compass, or protractor. A drawing is more accurate than a sketch.
- When you construct a geometric figure, the figure is created using only a compass and a straightedge.

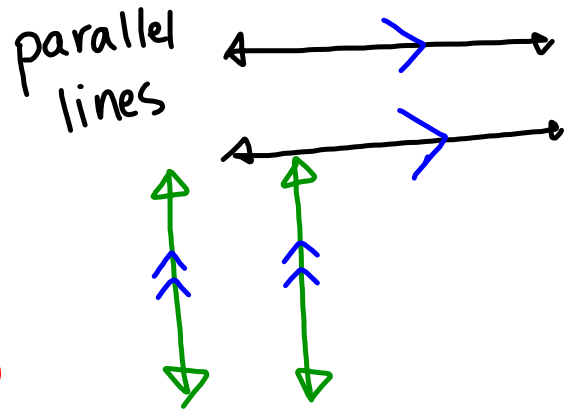
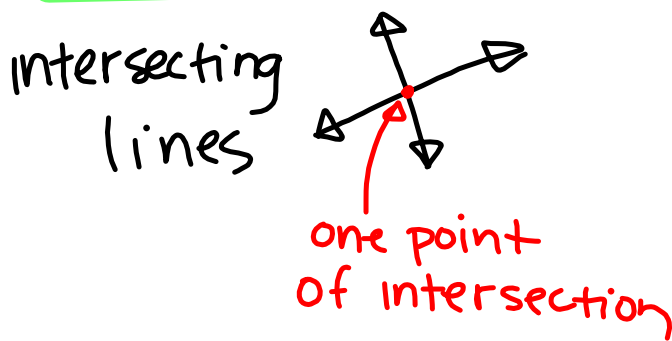
Handwritten notes in blue ink: } least accurate, } more accurate, } most accurate

4. Explain the differences among sketching a geometric figure, drawing a geometric figure, and constructing a geometric figure.

Content Mastery Quiz #2

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Coplanar lines are two or more lines that are located in the same plane. Skew lines are two or more lines that do not intersect and are not parallel. Skew lines do not lie in the same plane.



NOT IN YOUR BOOK, COPY INTO YOUR NOTES

2. Identify each of the following in the figure shown.

a. Name all collinear points.

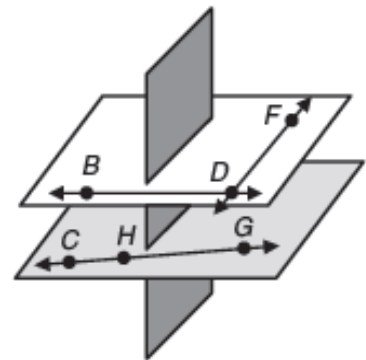
$C, H, G; B, D; D, F$

b. Name all coplanar lines.

$BD, DF;$

c. Name all skew lines.

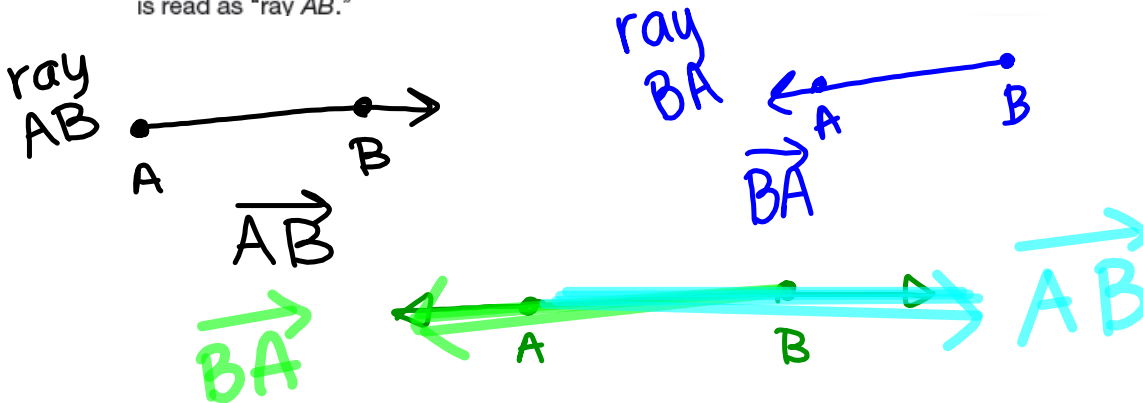
$BD, CG; DF, CG$



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A ray is a part of a line that begins with a single point and extends infinitely in one direction. The endpoint of a ray is the single point where the ray begins.

A ray is named using two capital letters, the first representing the endpoint and the second representing any other point on the ray. Ray AB can be written using symbols as \overrightarrow{AB} , which is read as "ray AB."



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A line segment is a part of a line that includes two points and all of the collinear points between the two points. The endpoints of a line segment are the points where the line segment begins and ends.

A line segment is named using two capital letters representing the two endpoints of the line segment. Line segment AB can be written using symbols as \overline{AB} , which is read as "line segment AB."

\overline{AB}

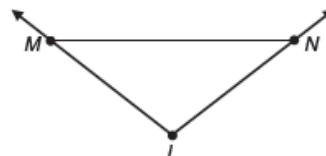


The endpoint is where the ray begins? Shouldn't it be called the "begin-point" instead?

NOT IN YOUR BOOK, COPY PROBLEM INTO NOTES

3. Identify each of the following in the figure shown.

a. Name all rays and identify each endpoint.



b. Name all line segments and identify the endpoints.



NOT IN YOUR BOOK, COPY PROBLEM INTO NOTES

5. Sketch two planes whose intersection is a line. 6. Sketch three planes whose intersection is a point.

7. Draw and label three collinear points X , Y , and Z such that point Y is between points X and Z and the distance between points X and Y is one half the distance between points Y and Z .

8. Use a symbol to represent the name of each geometric figure.

a.



b.



c.



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If two line segments have equal measure, then the line segments have the same length.
Congruent line segments are two or more line segments of equal measure.

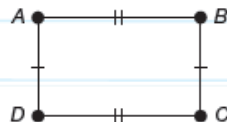
If $m\overline{AB} = m\overline{CD}$, then line segment AB is congruent to line segment CD by the definition of congruent line segments. This statement can be written using symbols as $\overline{AB} \cong \overline{CD}$ and is read as "line segment AB is congruent to line segment CD ."

Use the congruence symbol, \cong , between references to congruent geometric figures; and the equal symbol, $=$, between references to equal lengths or distances.



Markers are used to indicate congruent segments in geometric figures. If a diagram has more than one set of congruent segments then sets of markers can be used.

The figure shows $\overline{AB} \cong \overline{CD}$ and $\overline{AD} \cong \overline{BC}$.



11. Draw and label two congruent line segments. Then, use symbols to write a statement that describes their relationship.

Individual Reflection #1 - in class

Homework

Finish pages 8-16 in student text