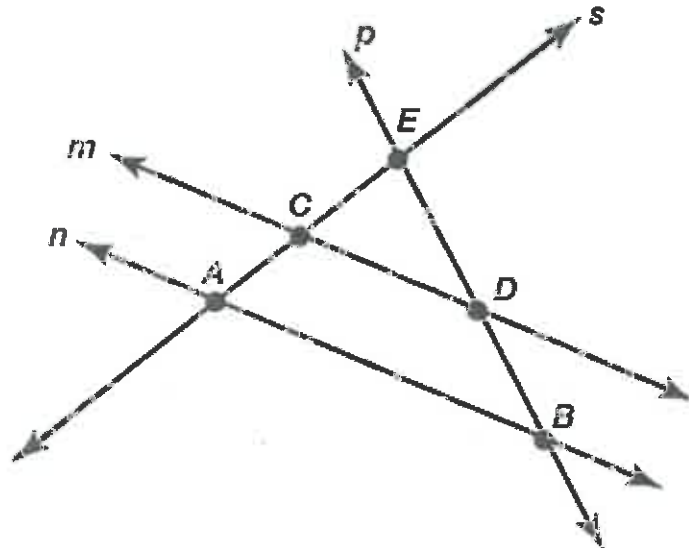


Points & Lines



1. Name 3 points.

A, C, D

2. Are the points you named in #1 Collinear? Why?

NO, because they are not all on the same line.

3. Name a line, 3 different ways.

line p

\overleftrightarrow{EB}

\overleftrightarrow{EDB}

4. Name 2 line segments that have no points in common.

\overline{CD} and \overline{AB}

5. Name 2 rays that contain point A as an endpoint.

\overrightarrow{AC} and \overrightarrow{AB}

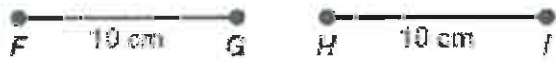
6. Name 2 rays that have a common endpoint, but go in opposite directions.

\overrightarrow{CE} and \overrightarrow{CA}

Congruent Vs. Equal

*note: \overline{FG} refers to the segment

FG refers to its measure or length.



1. Four siblings have made the following claims about the segments drawn above.

Sibling #1 claims $\overline{FG} \cong \overline{HI}$

Sibling #2 claims $FG = HI$

Sibling #3 claims $FG \cong HI$

Sibling #4 claims $\overline{FG} = \overline{HI}$

Only 2 of the siblings made a correct claim. Which 2 are they and why are they correct?

Siblings #1 and #2 are correct.

$FG = HI$ means that the lengths of the two segments are the same value, and only #'s can be "equal"

$\overline{FG} \cong \overline{HI}$ means the objects (in this case segments) are identical in size and shape. In other words, objects can not be "equal" to each other

2. Is it possible for $\overline{FG} \cong \overline{HI}$ or for $\overline{FG} = \overline{HI}$? Explain your reasoning.

Lines Rays

No, lines and rays have infinite length and thus can't have the same size.

Sketching, Drawing, Constructing



1. To "Sketch" means to make a picture using only a pencil. Sketch and label a segment \overline{CD} , such that $\overline{CD} \cong \overline{AB}$.



≅
"free hand"

2. To "Draw" means to make a picture using mathematical tools that measure, such as a ruler or protractor. Draw and label a segment \overline{CD} , such that $\overline{CD} \cong \overline{AB}$.

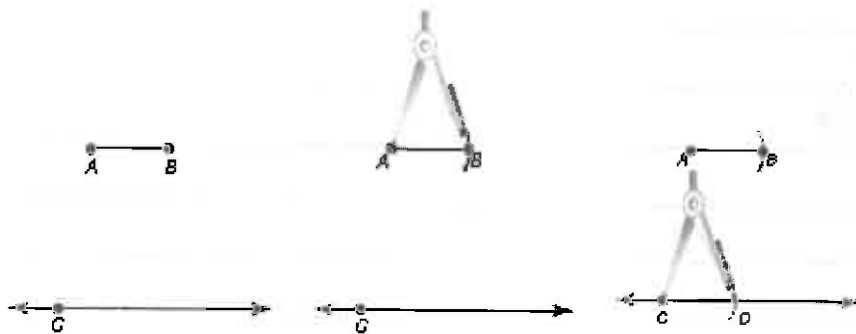


I used a ruler

$AB = 2.9 \text{ cm}$
a ruler is used to measure AB to create a copy.

3. To "Construct" means to make a picture using only a compass and straight edge.

You can duplicate a line segment by constructing an exact copy of the original line segment.



<p>Construct a Starter Line</p> <p>Use a straightedge to construct a starter line longer than AB. Label point C on the line.</p>	<p>Measure Length</p> <p>Set your compass at the length AB.</p>	<p>Copy Length</p> <p>Place the compass at C. Mark point D on the new segment.</p>
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Line segment CD is a duplicate of line segment AB .

Construct and label a segment \overline{CD} , such that $\overline{CD} \cong \overline{AB}$.

I used a compass straight edge.



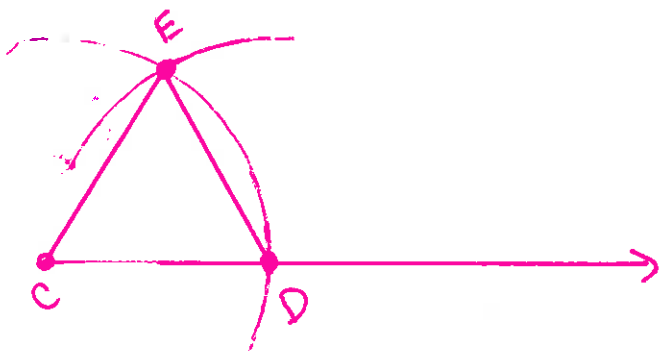
4. Which picture do you believe to be the most accurate? In other words, in which picture is segment CD precisely the same size as segment AB? Why?

the construction. because I used the compass to copy the length of \overline{AB} exactly.

the ruler was less accurate because I had to estimate the length of \overline{AB} to be between 2.8cm and 2.9cm.

5. Construct and label an equilateral triangle using \overline{CD} as the lengths of its sides.

3 \cong sides.



$\triangle CED$

$\overline{CE} \cong \overline{CD}$ and $\overline{ED} \cong \overline{CD}$. It is equilateral because all 3 sides are \cong .