

HW  
pg 24-25  
#8-22 even,  
36, 40

# Geometry

**Chapter 1**  
**Section 1-3**

# Vocabulary

Congruent Segments	Two segments that have the same length. (≅)
Midpoint	Point on a segment that divides it into two smaller congruent segments
Segment Bisector	Point, line, ray, or segment that intersects a segment at its midpoint

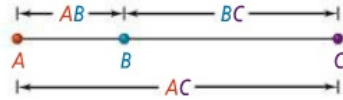
Congruent segments marked with same # of lines

# Segment Addition

Take note

## Postulate 1-6 Segment Addition Postulate

If three points  $A$ ,  $B$ , and  $C$  are collinear and  $B$  is between  $A$  and  $C$ , then  $\overline{AB} + \overline{BC} = \overline{AC}$ .



**Example:**

The length of  $\overline{AC}$  is 11 cm.  $\overline{AB}$  is 3 cm. How long is  $\overline{BC}$ ?

$$11 - 3 = 8 \text{ cm}$$

# Comparing Segment Length

Use the diagram below for the following problems:



The measure of  $\overline{XZ}$  is 8. Find the value of  $n$ .

If Y is the midpoint of  $\overline{XZ}$ . Find the value of  $n$ .

\*\*If  $n=0$ , then  $\overline{XZ} = -8$ . True or False?

*Hint: Distance from point a to point b is  $|b-a|$*

$$XY + YZ = XZ, (7n-13) + (n+5) = 8, 8n-8 = 8, 8n = 16, n=2$$

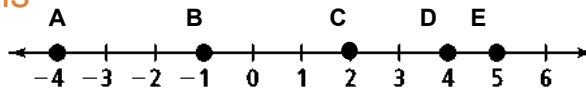
$$7n-13 = n+5, 6n = 18, n=3$$

False the distance can never be negative (absolute value is never negative)

# Line Segments on the Coordinate System

Every point on a line can be paired with a number. The real number corresponding to each point is called its coordinate.

Use the diagram below for the following problems:



How many segments shown are congruent to  $\overline{AB}$ ?

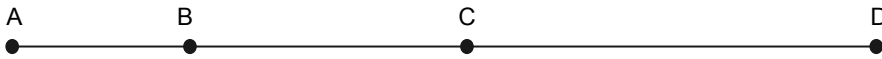
What is the measure of segment  $\overline{AD}$ ?

What point is  $\frac{2}{3}$  of the way from A to E?

2 BC and CE

$$|4 - (-4)| = |8| = 8 \quad \text{OR} \quad |-4 - 4| = |-8| = 8$$

# Multiple Segment Lengths



$$\overline{AC}=8, \overline{BD}=12, \overline{BC}=4$$

How long is  $\overline{AD}$ ? What is the midpoint of  $\overline{AD}$ ?

Can you draw a Point E between A and B such that  $\overline{AE}=6$ ?

$$\begin{aligned} AD - BD &= AB \\ AD - BD &= 2(CD) \end{aligned}$$

# Homework

Pages 24-25  
# 8-22 even, 36, 40