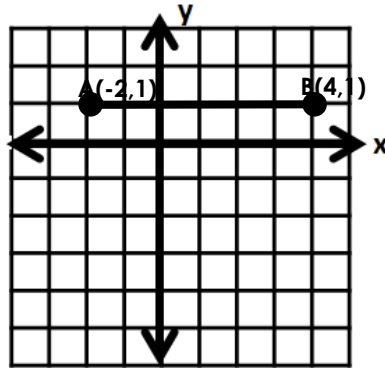Ruler
Postulate

Segment
Addition
Postulate

Ruler Postulate

The distance between points A and B, written as AB, is the absolute value of the difference of the coordinates of A and B.
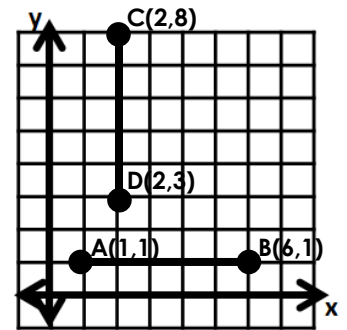
Line segments that have the same length are called congruent segments.

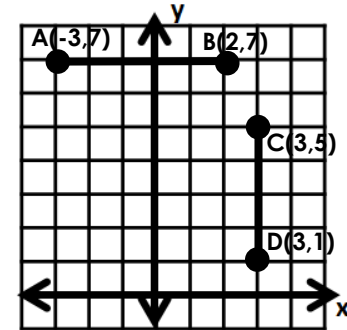**Practice:** Use the diagram to find the length of AB.

Example 1:
Use the diagram to determine whether $\overline{AB}$ and $\overline{CD}$ are congruent.
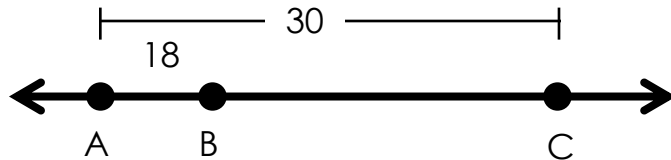

Example 2:
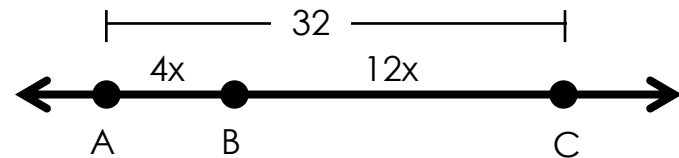Use the diagram to determine whether $\overline{AB}$ and $\overline{CD}$ are congruent.

Segment Addition Postulate (SAP)

If "B" is between "A" and "C", then AB + BC = AC.
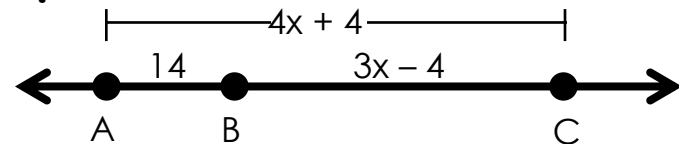
Practice: Find BC.

30
18
A   B   C

Example 3: Use the diagram to find BC.

32
4x   12x
A   B   C

Example 4: Use the diagram to find BC.

4x + 4
14   3x − 4
A   B   C

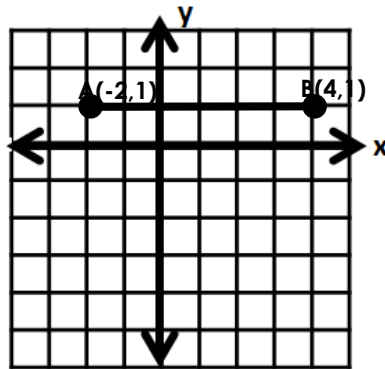Answer Key!

Ruler Postulate

Segment Addition Postulate

Ruler Postulate

The distance between points A and B, written as AB, is the absolute value of the difference of the coordinates of A and B.

Line segments that have the same length are called congruent segments.

Practice: Use the diagram to find the length of AB.

$$\overline{AB} = |4 - (-2)| = |6|$$
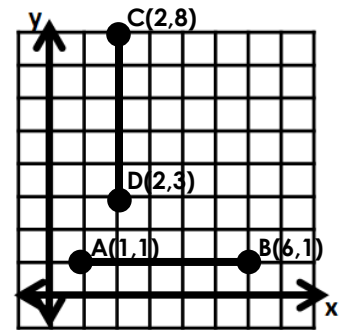$$= 6$$

A(-2,1)   B(4,1)

Example 1:
Use the diagram to determine whether $\overline{AB}$ and $\overline{CD}$ are congruent.

$$\overline{AB} = |6 - 1| = |5| = 5$$
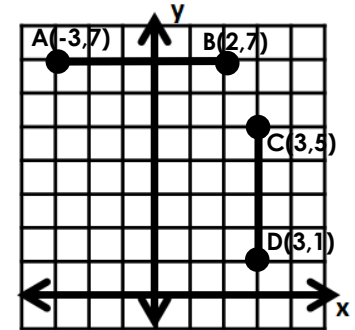$$\overline{CD} = |8 - 3| = |5| = 5$$

$$\overline{AB} \cong \overline{CD}$$

C(2,8)
D(2,3)
A(1,1)   B(6,1)

Example 2:
Use the diagram to determine whether $\overline{AB}$ and $\overline{CD}$ are congruent.

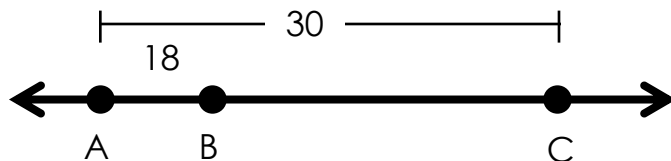$$\overline{AB} = |2 - (-3)| = |5| = 5$$
$$\overline{CD} = |5 - 1| = |4| = 4$$

NOT congruent

A(-3,7)   B(2,7)
C(3,5)
D(3,1)

Segment Addition Postulate (SAP)

If "B" is between "A" and "C", then AB + BC = AC.

Practice:
Find BC.

30
18
A   B   C

AC = AB + BC
30 = 18 + BC
12 = BC

Example 3: Use the diagram to find BC.

32
4x   12x
A   B   C
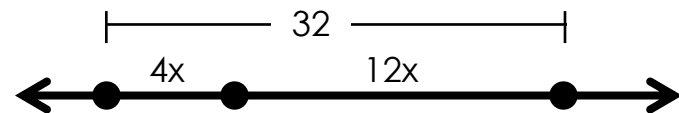
32 = 4x + 12x $\overline{BC}$ = 12x
32 = 16x $\overline{BC}$ = 12(2)
2 = x $\overline{BC}$ = 24

Example 4: Use the diagram to find BC.

4x + 4
14   3x − 4
A   B   C
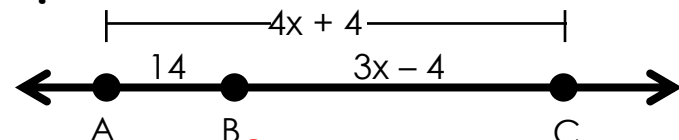
4x + 4 = 14 + 3x − 4 $\overline{BC}$ = 3x − 4
4x + 4 = 10 + 3x $\overline{BC}$ = 3(6) − 4
x + 4 = 10 $\overline{BC}$ = 14
x = 6

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Directions:

Print pages 1 & 2 front to back (3&4 for the answer key). I use the option on my printer: print double sided & flip along the short edge.

The final product should look like this: