19) Suppose $J$ is between $H$ and $K$. Use the Segment Addition Postulate to solve for $x$. Then find the length of each segment.

- $HJ = 2x + 4$
- $JK = 3x + 3$
- $KH = 22$

20) Find the coordinate of the midpoint of a segment with the given endpoints $A$ and $B$. $A(-3, 5)$ and $B(5, -1)$. 
21) Find the coordinates of the other endpoint of the segment with the given endpoint \( A \) and midpoint \( M \). \( A(-4, 3) \) and \( M(-1, -1) \)

True or False?

a) \( \overline{AB} = \overline{BA} \)  

b) \( \overline{AB} = \overline{BA} \)  

c) \( \overline{AB} = \overline{BA} \)  


d) \( \overline{AB} = \overline{BA} \)  


e) \( AB = BA \)  

E is the midpoint of $DF$.

a) $DE = 2x - 3, EF = 5x - 24$. Solve for $x$.

b) $GE = z, GH = 4z + 6, EH = 30$. Solve for $z$.

c) If $D(6, 3)$ and $F(-4, -3)$, find the coordinates of $E$.

d) If $D(7, 3)$ and $E(2, 1)$, find the coordinates of $F$.

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$M$ is between $O$ and $P$ with the following measurements:

$OM = x + 8$

$MP = 2x - 6$

$OP = 44$

Is $M$ the midpoint of $OP$? Justify your answer with an explanation.
Point $T$ is the midpoint of $\overline{RS}$. $W$ is the midpoint of $\overline{RT}$ and $Z$ is the midpoint of $\overline{WS}$. If the length of $TZ$ is $x$, find the lengths of $\overline{RW}$, $\overline{WZ}$, and $\overline{RS}$ terms of $x$.

$A$, $B$, and $C$ are three points on a number line.

$AC = BC = 5$. The coordinate of $C$ is 8, and the coordinate of $A$ is greater than the coordinate of $B$. What are the coordinates of $A$ and $B$?
G, H, and K are three points on a number line. The coordinates of G and H are 4 and -3 respectively. If H is between G and K and GK = 13, what is the coordinate of K?
$B$, the midpoint of $\overline{AC}$, has a coordinate of 5. If the coordinate of $A$ is greater than the coordinate of $C$, and if $BC = 9$, what are the coordinates of $A$ and $C$?

A segment has midpoint $M(3, -5)$ and one endpoint is $A(2, -4)$. What are the coordinates of $B$, the other endpoint?
Solve for $x$.

If $U$ is between $T$ and $B$, find the value of $x$ and the length of $TU$.

$TU = 1-x$, $TB = -3x$, $UB = 4x + 17$. 
Find the length of the segment in inches, centimeters, and millimeters.

In the figure, $CX$ bisects $AB$, $AX = 2x + 11$, and $XB = 4x - 5$. Find the length of $AB$. 
Use a ruler to find the perimeter of the rectangle in inches.

\[ A(-4.5, 1.5) \]
\[ B(6, 1.5) \]
\[ C(-4.5, 8) \]
\[ D(6, 1.5) \]

Find each length.
\[ AB = \]
\[ AC = \]
\[ BD = \]
Find x and the perimeter.