

9/3/19 - Warm Up Problem

Solve each equation.

$$3x - 7 + 2x = 23$$

$$\begin{array}{r}
 \cancel{4x} + 12 = \cancel{8x} - 20 \\
 \cancel{-4x} + \cancel{+x} \quad \quad \quad \cancel{-4x} + \cancel{+x} \\
 \hline
 32 = 4x \\
 \sqrt{} \\
 8 = x
 \end{array}$$

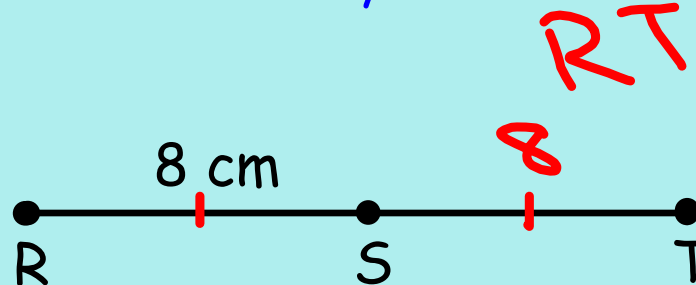
Section 1.3 - Measuring Segments

Goals: Calculate segment measures using algebra

The **measure** of a segment means its length.

-The measure of a segment is written without a symbol over it

S is the midpoint of \overline{RT} .
Find the measure of each segment.

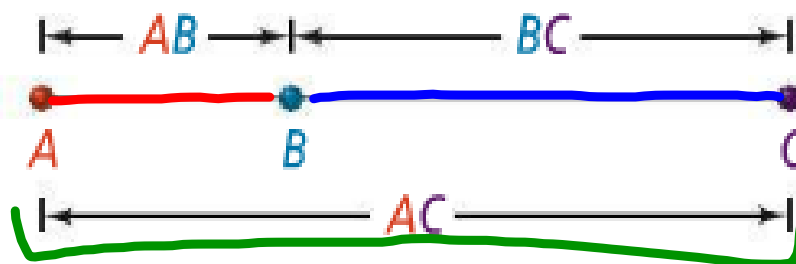


$$ST = \underline{8 \text{ cm}}$$

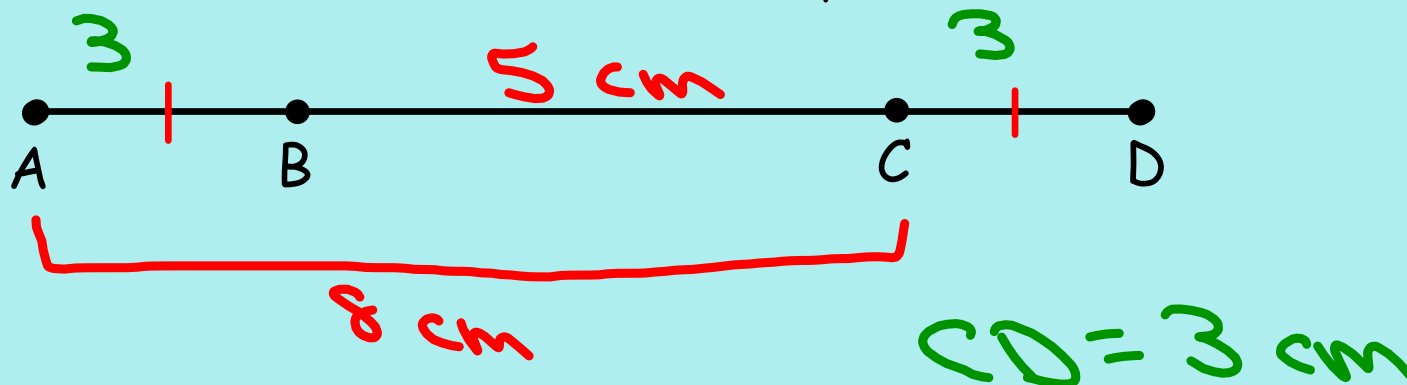
$$RT = \underline{16 \text{ cm}}$$

Segment Addition Postulate

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



If $AC = 8$ cm and $BC = 5$ cm, find CD .

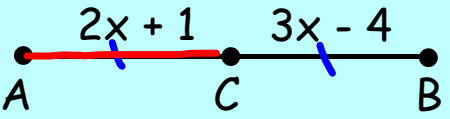


Finding Measures with Algebra

Problem Solving Tips

1. Draw a label a diagram (if you don't have one)
2. Think about how the segments or angles are related.
 - Are the congruent? $\underline{\quad} = \underline{\quad}$
 - Do they add up to something? $\underline{\quad} + \underline{\quad} = \underline{\quad}$
3. Make sure you have answered the whole question.

If C is the midpoint of AB ,
find the value of x and AC .

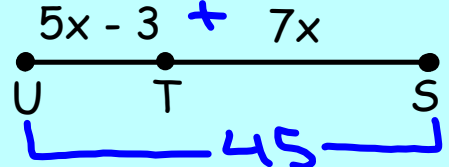


$$2x + 1 = 3x - 4$$

$$\begin{array}{r} -2x \\ \hline 1 = x - 4 \\ +4 \quad +4 \\ \hline 5 = x \end{array}$$

$$AC = 2(5) + 1 = 11$$

If $US = 45$, find the
value of x and TS .



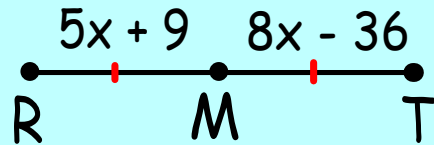
$$5x - 3 + 7x = 45$$

$$\begin{array}{r} 5x - 3 + 7x = 45 \\ 12x - 3 = 45 \\ +3 \quad +3 \\ \hline 12x = 48 \\ \frac{12x}{12} = \frac{48}{12} \\ x = 4 \end{array}$$

$$TS = 7(4) = 28$$

Do Example 1 in your notes.

M is the midpoint of Segment RT. Find the value of x and RM.



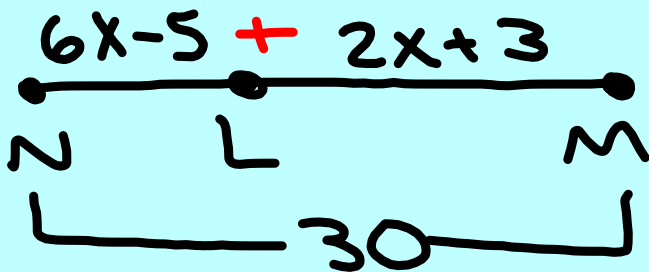
$$RM = 5(15) + 9$$

$$RM = 84$$

$$\begin{array}{r} 5x + 9 = 8x - 36 \\ -5x \quad -5x \\ \hline 9 = 3x - 36 \\ +36 \quad +36 \\ \hline 45 = 3x \\ \frac{45}{3} = \frac{3x}{3} \\ \hline x = 15 \end{array}$$

Do Example 2 in your notes.

Find x and LM if L is between N and M , $NL = 6x - 5$, $LM = 2x + 3$, and $NM = 30$.



$$LM = 2(4) + 3 = \boxed{11}$$

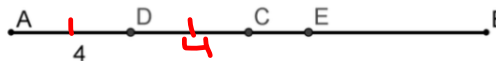
$$\begin{array}{r} \underline{6x-5} + \underline{2x+3} = 30 \\ 8x - 2 = 30 \\ + 2 \\ \hline 8x = 32 \\ \frac{8x}{8} = \frac{32}{8} \\ \boxed{x=4} \end{array}$$

Assignment:

Concept 2 Worksheet - due by Fri. 9/6
(front side only)

Given Info

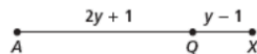
AD = 4
D is the midpoint of AC
 $\overline{AC} \cong \overline{CB}$
 $\overline{DE} \cong \overline{EB}$



- | | | |
|------------------|---------------|---------------|
| 1. DC = <u>4</u> | 2. CB = _____ | 3. AB = _____ |
| 4. DB = _____ | 5. EB = _____ | 6. CE = _____ |

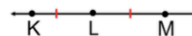
Use the given information to write and solve an equation. Drawing a diagram is helpful. Show your work.

7. If AX = 45, find the value of y and AQ.



y = _____
AQ = _____

8. L is the midpoint of Segment KM. If KL = 3x+2 and LM = 5x - 10, find x and KM.



x = _____
KM = _____

9. B is the midpoint of Segment AC. Find the value of x and AC if AB = 4x + 7 and BC = $5x - 4$.

x = _____
AC = _____

10. Points X, Y, and Z are collinear. Point Y is between points X and Z. Find n and XY if XY = 2n + 1, YZ = 6n, and XZ = 81.

n = _____
XY = _____

Concept Quizzes

- 5/50% is the lowest and 10/100% is the highest
- You can retake Concept 1 this week if you want to
- Keep track of your quiz scores on a concept checklist

Geometry – Semester 1 Concept Checklist

#	Concept	Textbook Sections	5	6	7	8	9	10
1	Basic Geometric Figures	1.2						
2	Segment and Angle Measures	1.3, 1.4						
3	Angle Relationships	1.5						
4	Distance, Midpoint, and Perimeter	1.7, 1.8						
5	Using Reasoning	2.1, 2.2, 2.3, 2.4						