

Name _____

Date _____

Segment Addition Postulate

Write the Segment Addition Postulate for the points described. Draw a picture to help.

1. S is between D and P

$$DS + SP = DP$$

2. J is between S and H

$$SJ + JH = SH$$

3. C is between Q and R

$$QC + CR = QR$$

4. T is between M and N

$$MT + TN = MN$$

C is between A and E. For each problem, draw a picture representing the three points and the information given. Solve for indicated.

5. If $AC = 24$ in. and $CE = 13$ in., $AE = \underline{37}$.

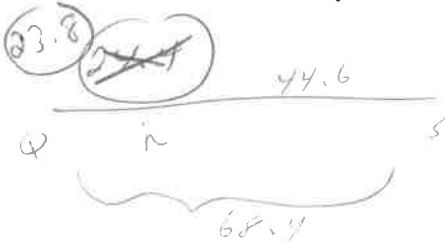


6. If $CE = 7$ in. and $AE = 23$ in., $AC = \underline{16}$.



Find QR in the following problems. R is between Q and S.

7. If $RS = 44.6$ and $SQ = 68.4$, find QR.



8. If $RS = 33.5$ and $RQ = 80$, find SQ.



Refer to the figure and the given information to find each measure.

9. Given: $AC = 39$ m



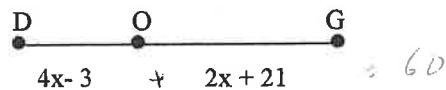
$$x = \underline{10}$$

$$AB = \underline{12}$$

$$BC = \underline{27}$$

$$\begin{aligned} 3x + 9 &= 39 \\ 3x &= 30 \\ x &= 10 \end{aligned}$$

10. Given the figure and $DG = 60$ ft.



$$x = \underline{7}$$

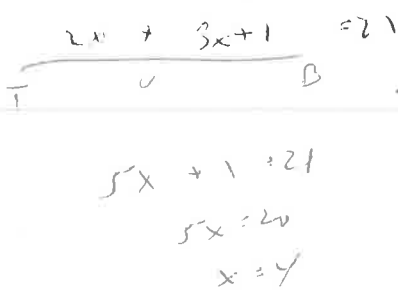
$$DO = \underline{25}$$

$$OG = \underline{35}$$

$$\begin{aligned} 6x + 18 &= 60 \\ 6x &= 42 \\ x &= 7 \end{aligned}$$

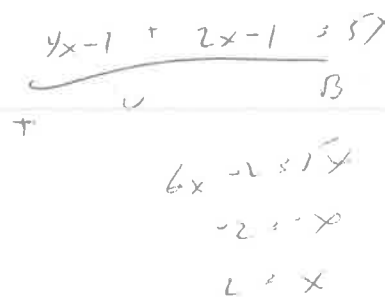
If U is between T and B, find the value of x and the lengths of the segments. Draw a picture for each problem with the given information and then write the equation to solve.

11. $TU = 2x$, $UB = 3x + 1$, $TB = 21$



$x = \underline{4}$
 $TU = \underline{8}$
 $UB = \underline{13}$

12. $TU = 4x - 1$, $UB = 2x - 1$, $TB = 5x$



$x = \underline{2}$
 $TU = \underline{7}$
 $UB = \underline{3}$
 $TB = \underline{10}$

For 13-14, suppose \overline{RS} is congruent to \overline{MN} . For each set of lengths, solve for x, and find the length of each segment.

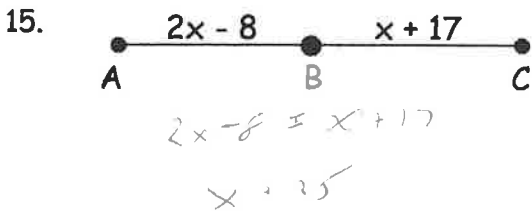
13. $RS = 3x + 17$, $MN = 7x - 15$

$3x + 17 = 7x - 15$
 $32 = 4x$
 $8 = x$
 $x = \underline{8}$
 $RS = \underline{41}$
 $MN = \underline{41}$

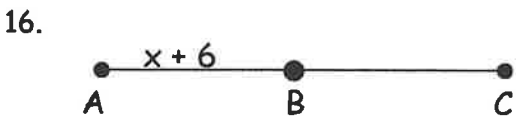
14. $RS = x + 10$, $MN = 2x + 4$

$x + 10 = 2x + 4$
 $6 = x$
 $x = \underline{6}$
 $RS = \underline{16}$
 $MN = \underline{16}$

For 15-16, suppose $\overline{AB} \cong \overline{BC}$. For each set of lengths, solve for x, and find the length of each segment.



$x = \underline{25}$ $AB = \underline{42}$
 $BC = \underline{42}$ $AC = \underline{84}$



$AC = 3x - 31$

$2x + 12 = 3x - 31$
 $43 = x$

$x = \underline{43}$ $AB = \underline{49}$
 $BC = \underline{49}$ $AC = \underline{98}$