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

1. S is between D and P
2. J is between S and H
3. C is between Q and R
4. T is between M and N

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 = _____.
6. If CE = 7 in. and AE = 23 in., AC = _____.

Find QR in the following problems. Draw a picture for each. 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
   \[ A \quad 2x-8 \quad B \quad x+17 \quad C \]
   \[ x = \ldots \]
   \[ AB = \ldots \]
   \[ BC = \ldots \]

10. Given the figure and DG = 60 ft.
   \[ D \quad O \quad G \quad 4x-3 \quad 2x+21 \]
   \[ x = \ldots \]
   \[ DO = \ldots \]
   \[ OG = \ldots \]

If U is between T and B, find the value of x and the lengths of the segments. (Hint: 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
   \[ x = \ldots \]
   \[ TU = \ldots \]
   \[ UB = \ldots \]

12. TU = 4x-1, UB = 2x -1, TB = 5x
   \[ x = \ldots \]
   \[ TU = \ldots \]
   \[ UB = \ldots \]
   \[ TB = \ldots \]
Write an equation for each:
13. Segment AB is congruent to segment BC _____________________________
14. $XY = AB$ _____________________________
15. Point B bisects segment AC _____________________________
16. $2x + 5$ is equal to $4x - 8$ _____________________________
17. Point A is the midpoint of segment PT _____________________________

For 18-19, suppose $\overline{RS}$ is congruent to $\overline{MN}$. For each set of lengths, solve for $x$, and find the length of each segment.
18. Draw a picture
   $RS = 3x + 17$, $MN = 7x - 15$
   
   $x = \underline{\hspace{2cm}}$
   $RS = \underline{\hspace{2cm}}$
   $MN = \underline{\hspace{2cm}}$

19. Draw a picture
   $RS = x + 10$, $MN = 2x + 4$
   
   $x = \underline{\hspace{2cm}}$
   $RS = \underline{\hspace{2cm}}$
   $MN = \underline{\hspace{2cm}}$

For 20-21, B is the midpoint of AC.
20. 
   $2x - 8 \quad x + 17$
   $A \quad B \quad C$
   
   $x = \underline{\hspace{2cm}}$
   $AB = \underline{\hspace{2cm}}$
   $BC = \underline{\hspace{2cm}}$
   $AC = \underline{\hspace{2cm}}$

21. 
   $\overline{AB} \quad \overline{BC}$
   $x + 6 \quad \underline{\hspace{2cm}}$
   $A \quad B \quad C$
   
   $x = \underline{\hspace{2cm}}$
   $AB = \underline{\hspace{2cm}}$
   $BC = \underline{\hspace{2cm}}$
   $AC = \underline{\hspace{2cm}}$

BONUS

\[ \overline{AB} \quad \overline{BC} \quad \overline{AC} \]
\[ 3(3x - 1) \quad 5(2x + 2) \]

\[ A \quad B \quad C \]

\[ x = \underline{\hspace{2cm}} \quad AB = \underline{\hspace{2cm}} \quad BC = \underline{\hspace{2cm}} \quad AC = \underline{\hspace{2cm}} \]