

Unit 1 Segment Addition Worksheet

Segment Addition Postulate If B is between A and C , then $AB + BC = AC$.
 If $AB + BC = AC$, then B is between A and C .

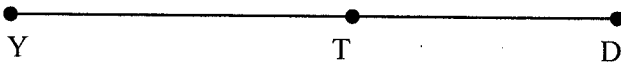
Write the **Segment Addition Postulate** for each problem. Also use **Segment Addition Postulate** to solve the following problems.

1. If $AB = 27$ and $BC = 13$, then find the length of AC .



$AC =$ _____

2. If $TD = 32$ and $YD = 51$, then find the length of YT .



$YT =$ _____

3. If $RG = 7x + 3$, $GQ = 3x + 13$, and $RQ = 56$, then find the value for x , RQ , and GQ .



$x =$ _____

$RQ =$ _____

$GQ =$ _____

4. If $AB = x + 4$, $BC = 2x - 10$, and $AC = 2x + 1$, then find the value for x , AB , BC and AC .



$x =$ _____

$AB =$ _____

$BC =$ _____

$AC =$ _____

5. If $AT = 6x - 2$, $TL = 4x - 12$, and $AL = 36$, then find the value for x , AT , and TL .



$x =$ _____

$AT =$ _____

$TL =$ _____

6. If $RE = 4x + 7$, $ET = 2(3x - 4)$, and $RT = 43$, then find the value for x , RE , and ET .



$x =$ _____

$RE =$ _____

$ET =$ _____

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

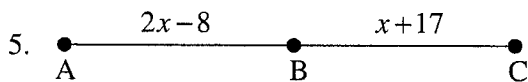
1. $RS = 3x + 17$, $MN = 7x - 15$

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

3. $RS = 3x - 2$, $MN = x + 6$

4. $RS = 5x - 10$, $MN = 2x + 20$

Suppose \overline{AB} is congruent to \overline{BC} . Solve for x , and find the length of \overline{AB} , \overline{BC} and \overline{AC} .



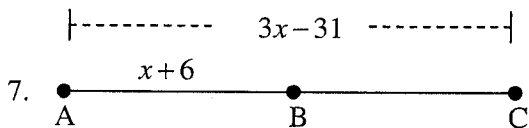
$X =$ _____ $AB =$ _____

$BC =$ _____ $AC =$ _____



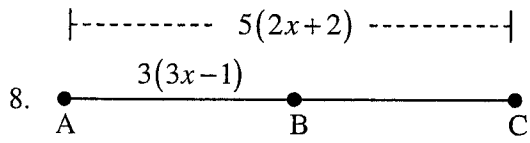
$X =$ _____ $AB =$ _____

$BC =$ _____ $AC =$ _____



$X =$ _____ $AB =$ _____

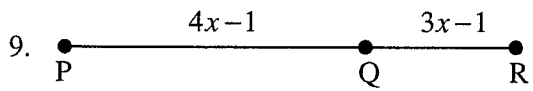
$BC =$ _____ $AC =$ _____



X = _____ AB = _____

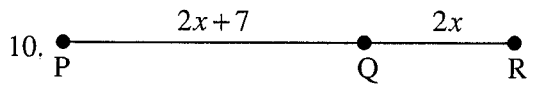
BC = _____ AC = _____

Suppose that $PR = 47$. Solve for x and find the length of segments PQ and QR .



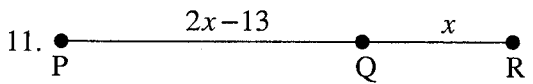
X = _____

PQ = _____ QR = _____



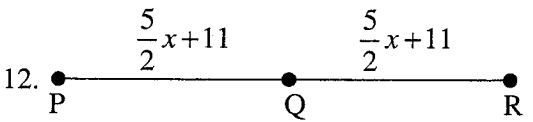
X = _____

PQ = _____ QR = _____



X = _____

PQ = _____ QR = _____



X = _____

PQ = _____ QR = _____