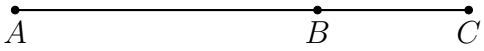
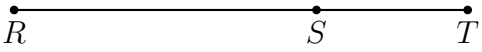
1.2 Classwork: Solve for length

1. Given $\overline{ABC}$, $AB = 8$, and $BC = 4$. Find AC.

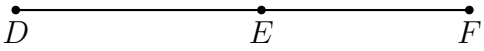


2. Given $\overline{RST}$, $RS = 5$, and $RT = 7\frac{1}{2}$.
   (a) Find ST.



   (b) The postulate used in this problem is the _____.

3. Given $\overline{DEF}$, $DE = x + 4$, $EF = x + 2$, $DF = 14$. Find DE.
   (a) Label the diagram with the given values.



   (b) Write an equation:

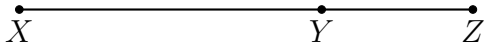
   (c) Solve for x

   (d) Answer the question.
   Find DE by substituting for x.

   (e) Check your answer

4. The points shown are in a straight line, $\overline{XYZ}$.

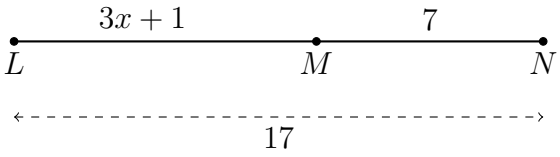
(a) Measure and label the lengths XY and YZ to the nearest centimeter.



(b) Write an equation employing the Segment Addition Postulate.
(fill in the blanks with values in centimeters)

$XZ =$ _____ + _____ = _____

5. Given $\overline{LMN}$, $LM = 3x + 1$, $MN = 7$, $LN = 17$. Find x.



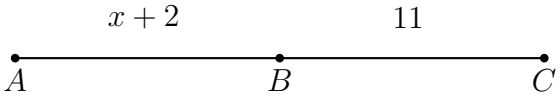
(a) Write down an equation to represent the situation.

(b) Solve for x.

(c) Check your answer.

6. Given point B is the midpoint of $\overline{AC}$, with $AB = x + 2$, $BC = 11$.

   First write and equation representing the situation, then find x.



7. Find the value of each expression.

   (a) $|11| =$

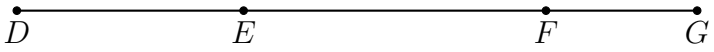
   (b) $|-7| =$

   (c) $|-4.75| =$

   (d) $|10 - 7| =$

8. Given $\overline{DEFG}$, $DE = 3\frac{1}{2}$, $EF = 7\frac{1}{2}$, and $FG = 2\frac{1}{2}$. (diagram not to scale)

   Find DG, expressed as a fraction, not a decimal.



9. Given $\overline{RST}$, $RS = 3\frac{2}{3}$, and $RT = 9\frac{1}{3}$. Find ST (expressed as a fraction, not a decimal).