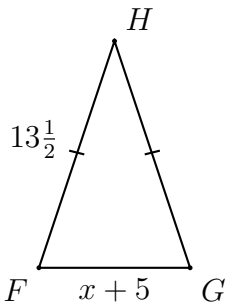
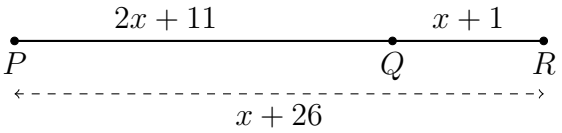
**1.5 Homework: Segments, equilateral and isosceles triangles, perimeter**

1. The perimeter of the isosceles $\triangle FGH$ is 35 with $\overline{FH} \cong \overline{GH}$. If $FG = x + 5$ and $FH = 13\frac{1}{2}$, find $x$.

   Show your work with an equation for full credit.




2. Given $\overline{PQR}$, $PQ = 2x + 11$, $QR = x + 1$, $PR = x + 26$. Find $x$.

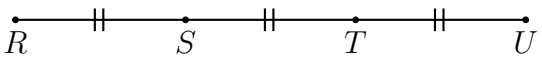



   (a) Write down an equation to represent the situation.

   (b) Solve for $x$.

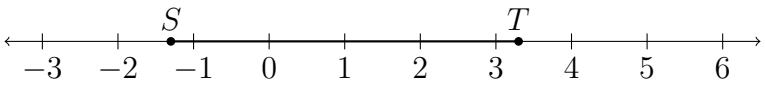
   (c) Check your answer.

3. Given the points $S$ and $T$ trisect the line segment $\overline{RU}$, as shown below. If $RT = 7$, find $RU$.



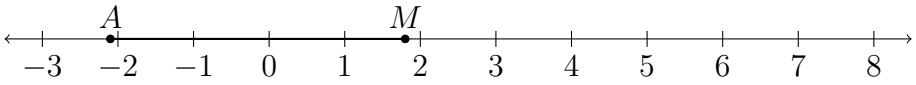
4. Given $S(-1.3)$ and $T(3.3)$, as shown on the number line.

   Mark and label the midpoint $M$ that bisects $\overline{ST}$.




5. Given $A(-2.1)$ and $M(1.8)$, as shown on the number line. The point $B$ is such that $M$ bisects $\overline{AB}$.

   Find the value of $B$. Mark and label it on the number line.




6. The point $Q$ lies on $\overline{AB}$ three quarters of the way from $A$ to $B$. Given $AB = 28$.

   (a) Mark and label the approximate location of $Q$.

   (b) Find $AQ$. State an equation for full credit.