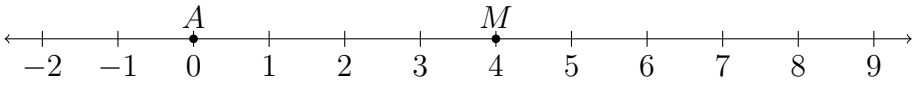
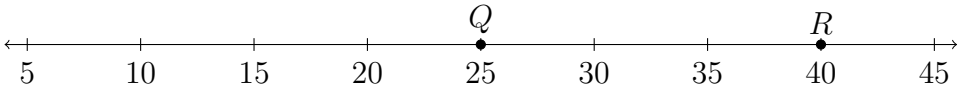
1.5 Extension: Find an endpoint given the midpoint

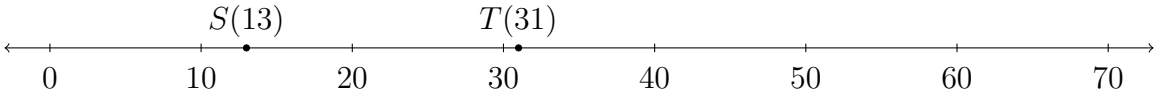
1. Given M is the midpoint of $\overline{AB}$, with $A = 0$ and $M = 4$. Find the value of point B and mark and label it on the number line.



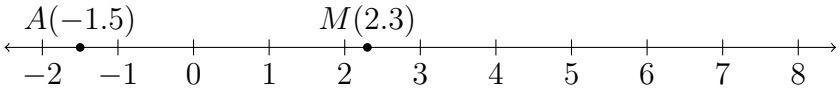
2. Given collinear points with Q the bisector of $\overline{PR}$, $Q(25)$ and $R(40)$. Find P, marking it and labeling it on the number line.



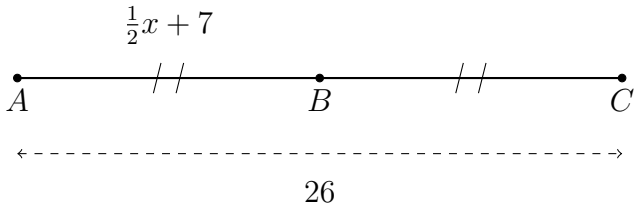
3. Given points $S(13)$ and $T(31)$, find the value of U such that T is the midpoint of $\overline{SU}$. Mark U and label it on the number line.



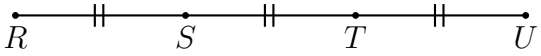
4. The point $M(2.3)$ is the midpoint of segment $\overline{AB}$. Given $A(-1.5)$, find the value of B. Mark and label it below.



5. Point B bisects segment $\overline{AC}$, $AB = \frac{1}{2}x + 7$ and $AC = 26$. Find x.



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



7. The point Q lies on $\overline{AB}$ three quarters of the way from A to B. Given $AB = 28$.
   (a) Mark and label the location of Q. (measure)
   (b) Find AQ. State an equation for full credit.