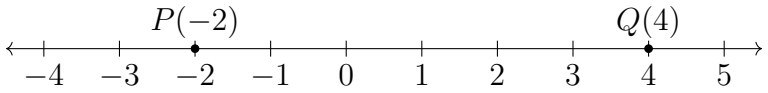
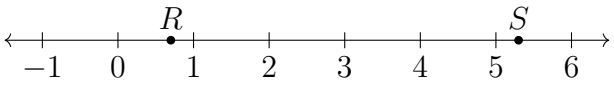
## 2.1 Homework: Length and area test review

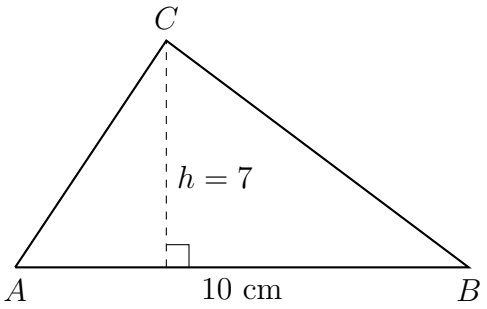
1. Find the distance between $P$ and $Q$.




2. Find $RS$, given $R = 0.7$ and $S = 5.3$.




3. Find the area of $\triangle ABC$. The altitude $h$ of the triangle is 7 centimeters and the base $AB = 10$ cm. (diagram not to scale)




4. Solve each equation for $x$ then check your result.

   (a) $(3x + 4) + (x - 2) = 22$

   (b) $(6x - 21) + (2x - 3) = 5x$

**Do Not Solve! Complete the diagram of the situation, model with an equation to the right, and circle where it states what to find.**

5. The point $Q$ is on the segment $\overline{PR}$ with $PQ = 2x$, $QR = 11$, and $PR = 21$. Find $x$.



6. The point $Q$ is the midpoint of $\overline{PR}$, $PQ = 11$, and $QR = 2x + 1$. Find $x$.



7. Given $\overline{PQR}$, with $PQ = 3x - 7$, $QR = x + 3$, and $PR = 12$. Find $PQ$.



8. Given that $Q$ bisects $\overline{PR}$. $PQ = 2x - 5$, $PR = 42$. Find $x$.



9. Given collinear points $P$, $Q$, $R$, and $S$. Also, $PQ = 3x$ and $PS = 72$. Furthermore, $\overline{PQ} \cong \overline{QR} \cong \overline{RS}$. Find $x$.



10. The points $P$, $Q$, and $R$ are collinear, with $PQ = x + 4$ and $PR = 27$. $\overline{QR}$ is twice the length of $\overline{PQ}$. Find $QR$.