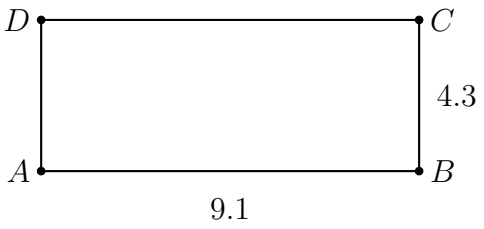
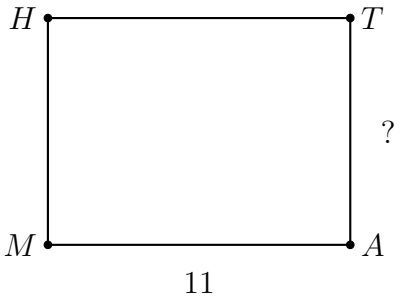
2.7 Pretest: Area, perimeter, line segments

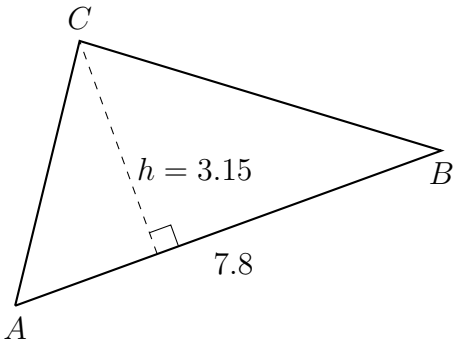
1. Given the rectangle $ABCD$ shown below, with $AB = 9.1$ and $BC = 4.3$. Find the area of the rectangle.



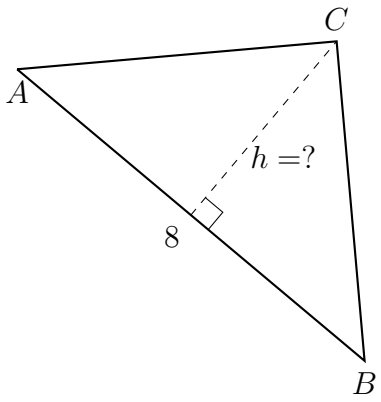
2. The rectangle $MATH$ has an area of 102, with length $MA = 12$. Find the width of the rectangle AT.



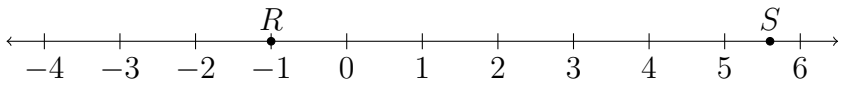
3. Find the area of $\triangle ABC$. The altitude h of the triangle is 3.15 centimeters and the base $AB = 7.8$ cm.



4. One side of the $\triangle ABC$ has a length $AB = 8$. The triangle's area is 44. Find the length of the altitude h of the triangle to vertex C and perpendicular to side $\overline{AB}$.



5. Given $\overleftrightarrow{RS}$ as shown on the number line, with $R = -1.0$ and $S = 5.6$.

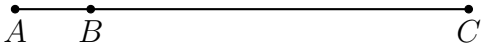


   (a) What is the exact distance on the number line between the points R and S?

   (b) The points T and U trisect $\overline{RS}$. Find the values of T and U, and mark and label them on the numberline $\overleftrightarrow{RS}$.

6. Given $\overline{ABC}$, $AB = \frac{2}{3}$, and $AC = 3\frac{1}{3}$.

   Find BC.



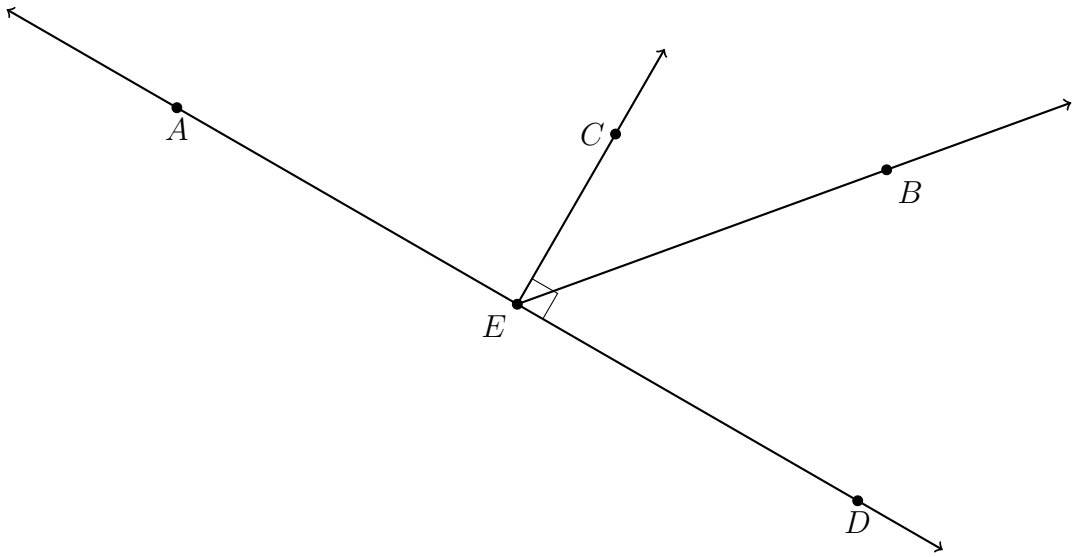
   The postulate used in this problem is the _____.

7. Given the diagram shown below.

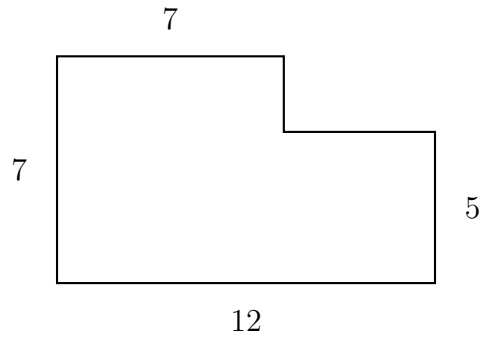
   (a) Measure the angle AEB. $m\angle AEB =$ _____

   (b) Name an angle that is supplementary to $\angle DEB$: _____

   (c) Name a pair of opposite rays: _____



8. Find the perimeter P of the shape shown below, given the side lengths marked (not drawn to scale). All angles are $90°$. Completely mark the diagram with the two missing lengths and show an equation for P as a sum of each side's length.



9. Given the collinear points P, Q, and R, with $PQ = 4x + 4$, $QR = 2x + 2$, and $PR = 5x + 12$. Find PQ.

   Complete all steps for full credit: the drawing to the top right, an equation and solution for x on the left, followed by the answer to the question. Write the check to the bottom right.