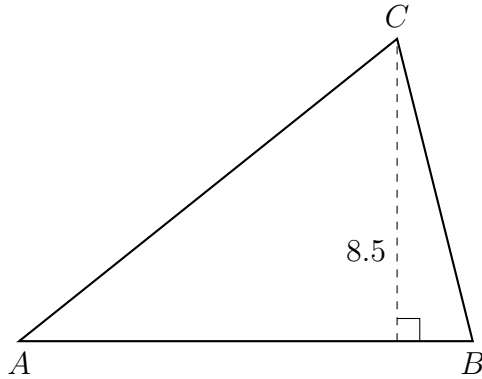


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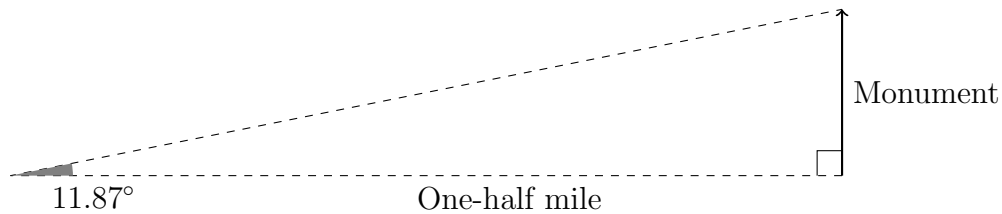
10.10 Pretest: Volume, density, trig review

1. The area of $\triangle ABC$ is 120.7 square inches. The altitude h of the triangle is 8.5 inches. Find the length of the base AB .

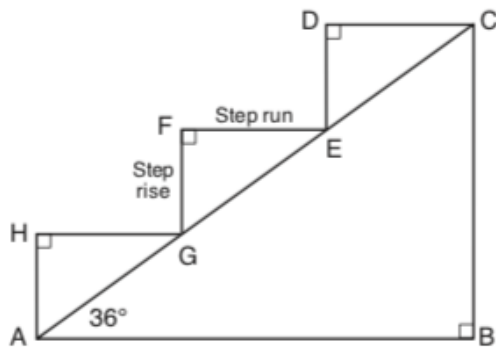


2. In a right triangle, the acute angles have the relationship $\sin(2x) = \cos(70)$.
What is the value of x ?
3. If $\sin(8x - 8)^\circ = \cos(7x + 8)^\circ$, what is the value of x ?
4. Write an equation of the line that is perpendicular to the line whose equation is $3y = 2x + 6$ and passes through the point $(-1, 7)$.
5. Find the distance between $(1, 9)$ and $(6, -3)$.

6. From a point on the ground one-half mile from the base of a historic monument, the angle of elevation to its top is 11.87° . To the nearest foot, what is the height of the monument?



7. A homeowner is building three steps leading to a deck, as modeled by the diagram below. All three step rises, \overline{HA} , \overline{FG} , and \overline{DE} , are congruent, and all three step runs, \overline{HG} , \overline{FE} , and \overline{DC} , are congruent. Each step rise is perpendicular to the step run it joins. The measure of $\angle CAB = 36^\circ$ and $\angle CBA = 90^\circ$.

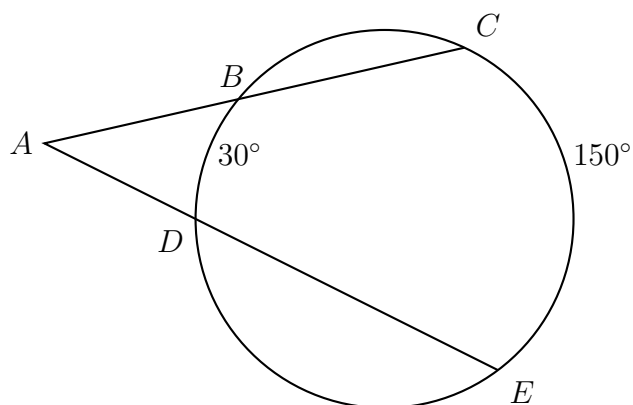


If each step run is parallel to \overline{AB} and has a length of 10 inches, determine and state the length of each step rise, to the *nearest tenth of an inch*.

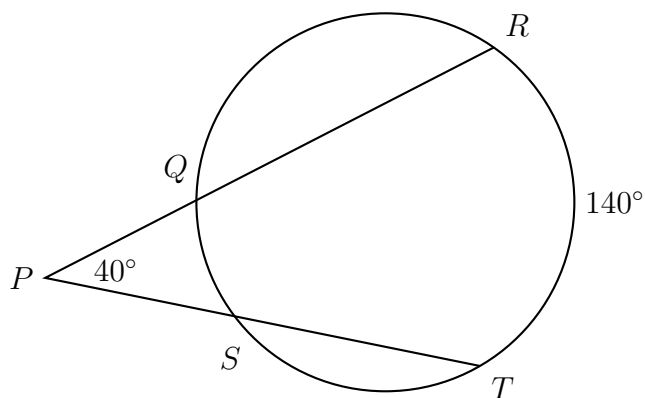
Determine and state the length of \overline{AC} , to the *nearest inch*.

Name:

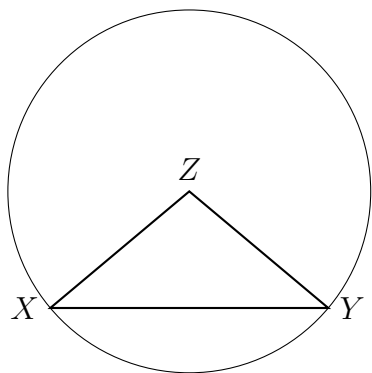
8. The secants \overline{ABC} and \overline{ADE} intersect the circle O , as shown in the diagram. Given $m\widehat{BD} = 30^\circ$ and $m\widehat{CE} = 150^\circ$. Find the $m\angle A$.



9. The secants \overline{PQR} and \overline{PST} intersect the circle O , as shown in the diagram. Given $m\angle P = 40^\circ$ and $m\widehat{RT} = 140^\circ$. Find the $m\widehat{QS}$.



10. Given circle Z with inscribed $\triangle XYZ$. $m\angle Z = 100$. Find $m\angle Y$.



11. Given circle O with inscribed $\triangle SLO$. $m\angle S = x + 7$. Find $m\angle O = 2x - 2$. Find x .
For full credit, check your answer.

