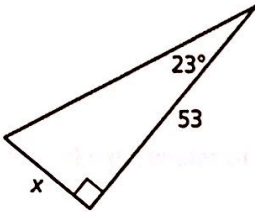


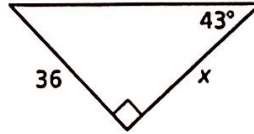
Honors : Finding sides and angles using Sin Cos Tan
 "SOHCAHTOA"

In Exercises 1–3, find the value(s) of the variable(s). Round your answer(s) to the nearest tenth.

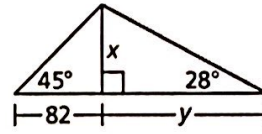
1.



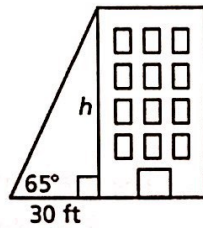
2.



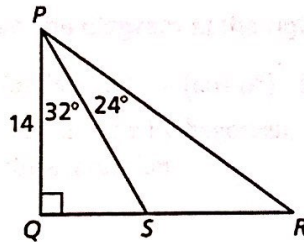
3.



4. A surveyor is standing 30 feet from the base of a tall building. The surveyor measures the angle of elevation from the ground to the top of the building to be 65° . Find the height h of the building to the nearest foot.

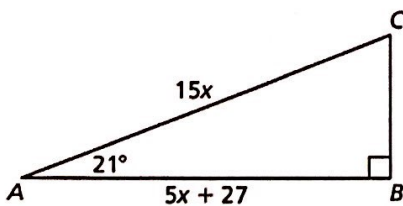


5. In the diagram, $\overline{RQ} \perp \overline{PQ}$, $m\angle QPS = 32^\circ$, $m\angle RPS = 24^\circ$, and $PQ = 14$. Find RS to the nearest tenth of a unit.

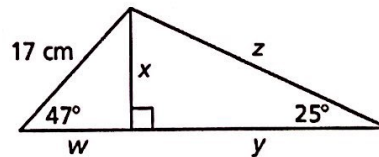


In Exercises 1 and 2, find the missing variable(s). Round your answers to the nearest thousandths.

6.



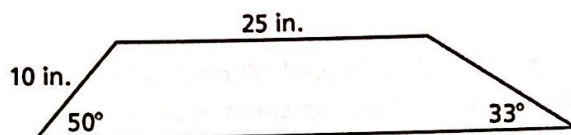
7.



Honors : Finding sides and angles using Sin Cos Tan
"SOHCAHTOA"

8. In right $\triangle RTX$ $\sin R = \frac{5}{13}$ If the hypotenuse of the triangle is 117 units, what is the triangle's perimeter?

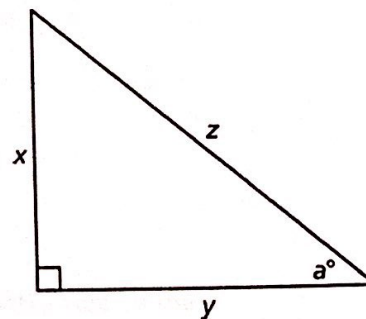
9. Find the perimeter of the isosceles trapezoid. Round your answer to the nearest tenth.



10. In right $\triangle ABC$, $m\angle B = 90^\circ$ and $m\angle A = 30^\circ$. What is the ratio of the longest leg to the hypotenuse?

In Exercises 11 and 12, use the diagram at the right.

11. Write an expression for $(\sin a^\circ)^2 + (\cos a^\circ)^2$ in terms of x , y , and z . Then use the Pythagorean Theorem to simplify the expression.



12. Suppose $\sin a^\circ = 0.6$. What is the value of $\cos a^\circ$?