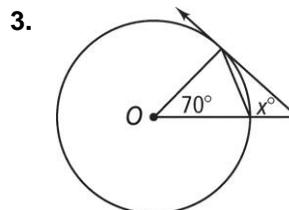
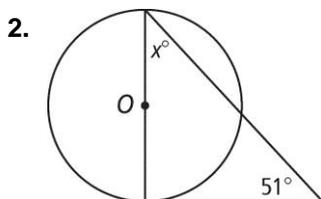
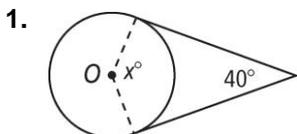


12-1 Practice

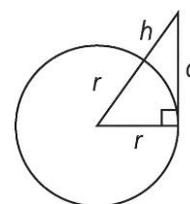
Tangent Lines

Form G

Algebra Assume that lines that appear to be tangent are tangent. O is the center of each circle. What is the value of x ?



The circle at the right represents Earth. The radius of the Earth is about 6400 km. Find the distance d that a person can see on a clear day from each of the following heights h above Earth. Round your answer to the nearest tenth of a kilometer.

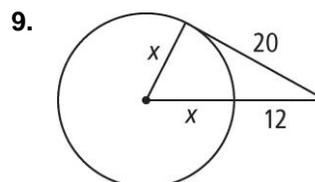
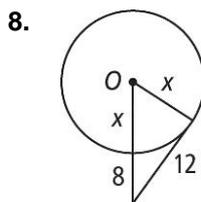
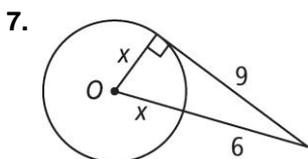


4. 12 km

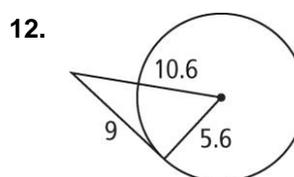
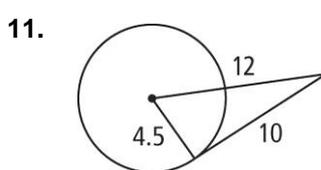
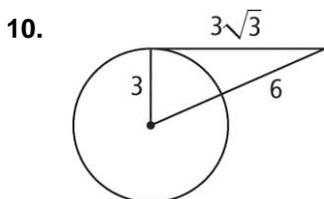
5. 20 km

6. 1300 km

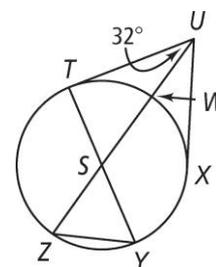
In each circle, what is the value of x to the nearest tenth?



Determine whether a tangent line is shown in each diagram. Explain.



13. \overline{TY} and \overline{ZW} are diameters of $\odot S$. \overline{TU} and \overline{UX} are tangents of $\odot S$. What is $m\angle SYZ$?



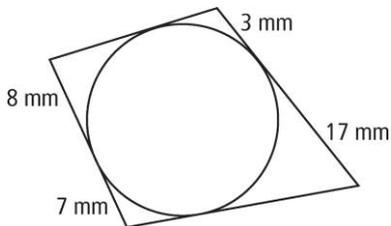
12-1 Practice (continued)

Tangent Lines

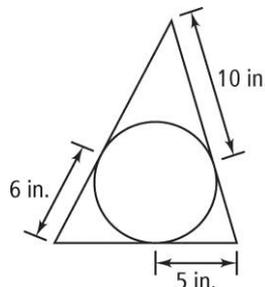
Form G

Each polygon circumscribes a circle. What is the perimeter of each polygon?

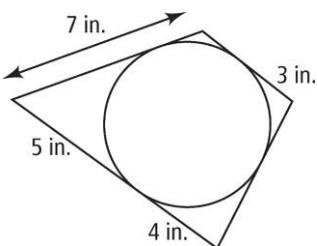
14.



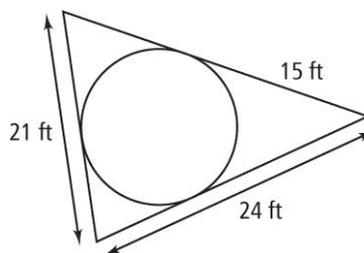
15.



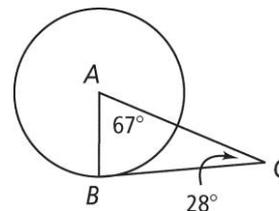
16.



17.



18. **Error Analysis** A classmate states that \overline{BC} is tangent to $\odot A$. Explain how to show that your classmate is wrong.



19. The peak of Mt. Everest is about 8850 m above sea level. About how many kilometers is it from the peak of Mt. Everest to the horizon if the Earth's radius is about 6400 km? Draw a diagram to help you solve the problem.

20. The design of the banner at the right includes a circle with a 12-in. diameter. Using the measurements given in the diagram, explain whether the lines shown are tangents to the circle.

