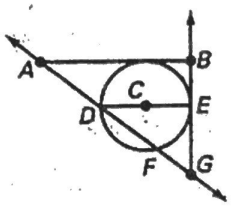
1. Tell whether the line, ray, or segment is best described as a *radius*, *chord*, *diameter*, *secant*, or *tangent* of $\odot C$.



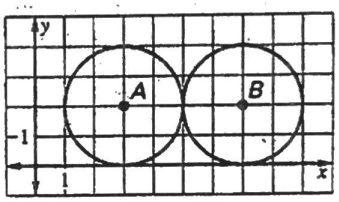
   a. $\overline{DF}$ b. $\overline{AB}$
   c. $\overline{CE}$ d. $\overline{DE}$
   e. $\overleftrightarrow{AG}$ f. $\overline{EB}$

2. Draw a circle P. Draw a tangent ray on the circle and label it $\overrightarrow{CD}$.

3. Draw a circle P. Draw a secant on the circle and label it $\overleftrightarrow{EF}$.

4. Draw a circle P. Draw a chord on the circle and label it $\overline{GH}$.

Use the diagram to determine if the statement is *true* or *false*.



5. The distance between the centers of the circles is equal to the length of the diameter of each circle.

6. The lines $y = 0$ and $y = 4$ represent all the common tangents of the two circles.

7. The circles intersect at the point (6, 3).

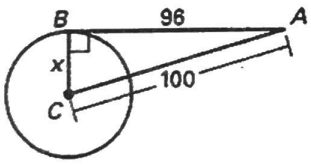
8. Suppose the two circles shown are inscribed in a rectangle. The perimeter of the rectangle is 36 units.

Draw two circles that have the given number of common tangents.

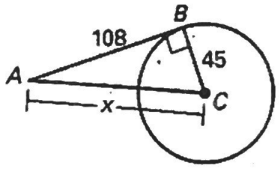
9. 3 10. 2 11. 0

In Exercises 12–17, $\overline{BC}$ is a radius of $\odot C$ and $\overline{AB}$ is tangent to $\odot C$. Find the value of x.

12.



13.



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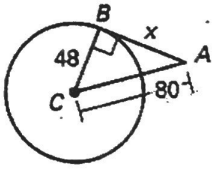
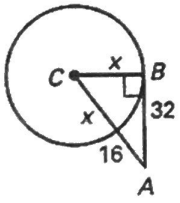
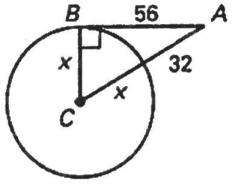


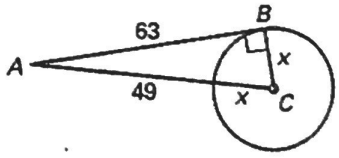
15.



16.

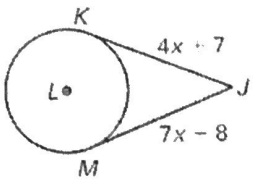


17.

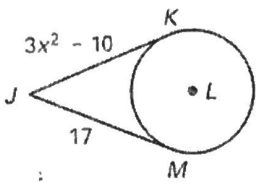


The points *K* and *M* are points of tangency. Find the value(s) of *x*.

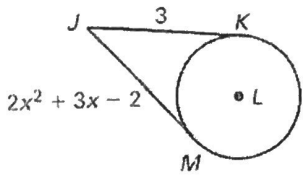
18.



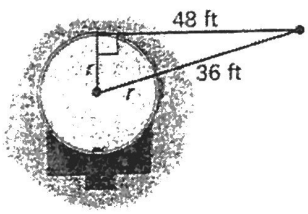
19.



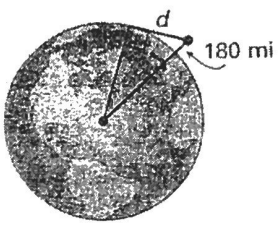
20.



21. Swimming Pool You are standing 36 feet from a circular swimming pool. The distance from you to a point of tangency on the pool is 48 feet as shown. What is the radius of the swimming pool?

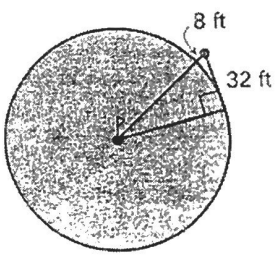


22. Space Shuttle Suppose a space shuttle is orbiting about 180 miles above Earth. What is the distance d from the shuttle to the horizon? The radius of Earth is about 4000 miles. Round your answer to the nearest tenth.



In Exercises 23 and 24, use the following information.

Golf A green on a golf course is in the shape of a circle. Your golf ball is 8 feet from the edge of the green and 32 feet from a point of tangency on the green as shown in the figure.



23. Assuming the green is flat, what is the radius of the green?

24. How far is your golf ball from the cup at the center of the green?

25. In the diagram, $\overline{SR}$ is tangent to $\odot P$ and $\odot Q$. Use similar triangles to show that $\frac{QT}{PS} = \frac{RT}{RS}$.