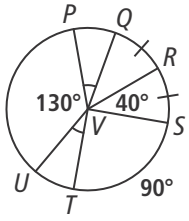
10-1 Additional Practice

Arcs and Sectors

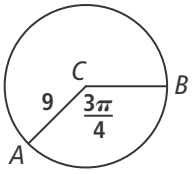
Use $\odot V$ to find each arc measure.



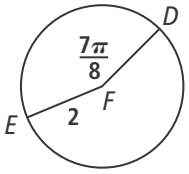
1. $\overset{\frown}{QR}$ **40°**
2. $\overset{\frown}{PQ}$ **30°**
3. $\overset{\frown}{STU}$ **120°**
4. $\overset{\frown}{PSU}$ **230°**

Find each arc length. Express each answer in terms of π.

5. length of $\overset{\frown}{AB}$ **$\frac{27\pi}{4}$**

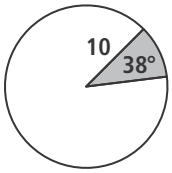


6. length of $\overset{\frown}{DE}$ **$\frac{7\pi}{4}$**



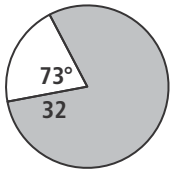
Find the area of the shaded sector. Round to the nearest tenth.

7.



33.2

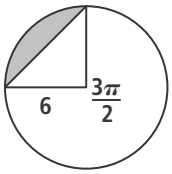
8.



2564.7

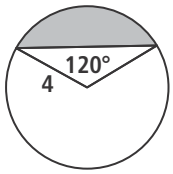
Find the area of the shaded segment. Round to the nearest tenth.

9.



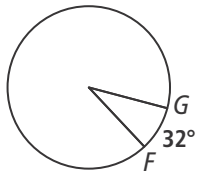
$9\pi - 18$

10.



$\frac{16\pi}{3} - 4\sqrt{3}$

11. The length of $\overset{\frown}{GF}$ is 4 m. What is the radius of the circle? Round to the nearest tenth.
7.2 m



12. What is the area of the sector bounded by $\overset{\frown}{GF}$? Round to the nearest tenth.
14.3 m^2

13. If an arc with measure 60° has length 5π on a circle with radius r, what is the length of a 60° arc on a circle with radius $2r$? Explain.
10π; Sample: The length of an arc is proportional to the radius of the circle.

14. A pizza with radius 7 in. is cut into 12 equal-sized pieces. What is the area of each piece? Round to the nearest hundredth of an inch.
12.83 $in.^2$

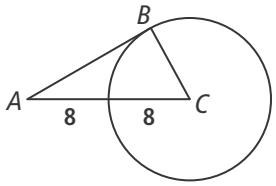
10-2 Additional Practice

Lines Tangent to a Circle

In Exercises 1 and 2, segment $\overline{AB}$ is tangent to $\odot C$. Find each value.

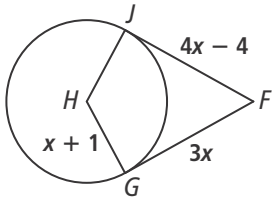
1. AB $\sqrt{192}$ or 13.86

2. $m\angle ABC$
   90°

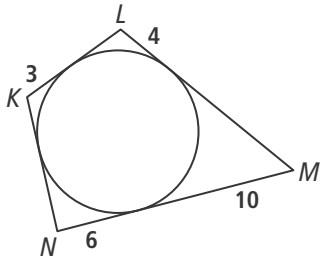


In Exercises 3–5, find each value.

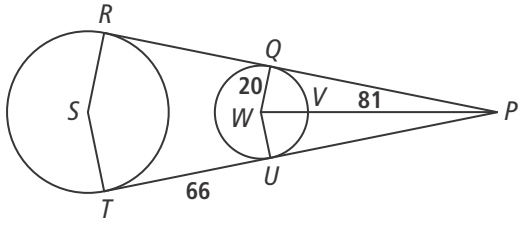
3. $\overline{JF}$ and $\overline{GF}$ are tangent to $\odot H$. What is HJ?
   5



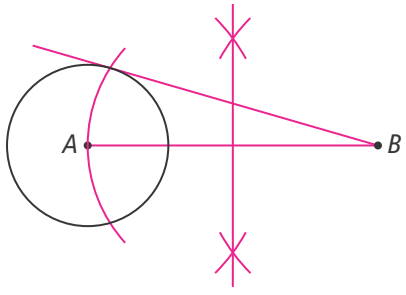
4. $\overline{KL}$, $\overline{LM}$, $\overline{MN}$, and $\overline{KN}$ are tangent to the circle. What is the perimeter of $KLMN$?
   46



5. $\overline{RP}$ and $\overline{TP}$ are tangent to $\odot S$ and $\odot W$. What is RP?
   144



6. Construct a tangent to $\odot A$ that passes through B.



7. If two segments share an endpoint and are tangent to the same circle at their other endpoints, what must be true of the segments?
   The two segments are the same length, or the two segments are congruent.

8. A marble with radius r rolls in a L-shaped track. How far is the center of the marble from the corner of the track?
   $\sqrt{2}r$