11.1 Practice A

In Exercises 1–4, find the indicated measure.

1. radius of a circle with a circumference of $42\pi$ meters

2. circumference of a circle with a radius of 27 feet

3. circumference of a circle with a diameter of 15 inches

4. diameter of a circle with circumference 39 centimeters

5. Maple trees suitable for tapping for syrup should be at least 1.5 feet in diameter. You wrap a rope around a tree trunk, then measure the length of the rope needed to wrap one time around the trunk. This length is 4 feet 2 inches. Explain how you can use this length to determine whether the tree is suitable for tapping.

In Exercises 6–8, find the arc length of $\overarc{AB}$.

6. 

7. 

8. 

In Exercises 9 and 10, find the perimeter of the region.

9. 

10. 

In Exercises 11 and 12, convert the angle measure.

11. Convert $60^\circ$ to radians.

12. Convert $\frac{5\pi}{4}$ radians to degrees.

13. A carousel has a diameter of 50 feet. To the nearest foot, how far does a child seated near the outer edge travel when the carousel makes 8 revolutions?
In Exercises 1 and 2, find the indicated measure.

1. exact diameter of a circle with a circumference of 36 meters
2. exact circumference of a circle with a radius of 5.4 feet
3. Find the circumference of a circle inscribed in a square with a side length of 14 centimeters.

In Exercises 4–9, use the diagram of circle D with \( \angle EDF \cong \angle FDG \) to find the indicated measure.

4. \( m\angle EFG \)
5. \( m\angle EHG \)
6. arc length of \( \frac{1}{4} \angle EFG \)
7. arc length of \( \frac{1}{4} \angle EHG \)
8. \( m\angle EHF \)
9. arc length of \( \frac{1}{4} \angle FEG \)

In Exercises 10–12, find the indicated measure.

10. \( \overarc{AB} \)
11. circumference of \( eF \)
12. radius of \( eJ \)

In Exercises 13 and 14, convert the angle measure.

13. Convert 105° to radians.
14. Convert \( \frac{5\pi}{6} \) radians to degrees.

15. The chain of a bicycle travels along the front and rear sprockets, as shown in the figure. The circumferences of the rear sprocket and the front sprocket are 12 inches and 20 inches, respectively.
   a. How long is the chain? Round your answer to the nearest tenth.
   b. On a chain, the teeth are spaced in \( \frac{1}{2} \)-inch intervals. About how many teeth are there on this chain?