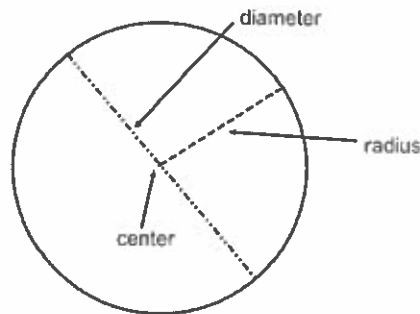


Circumference of Circles

- A circle is all of the points in a plane that are the same distance from a given point called the center.
- The diameter (d) is the distance across the circle through its center.
- The radius (r) is the distance from the center to any point on the circle.
- The circumference (C) is the distance around the circle.



If the diameter of a circle is 7.5 inches, what is the circumference?

Circumference = π times the diameter

3.14 is an approximation for π

The circumference of the circle is about 23.55 inches.

$$C = \pi d$$

$$C \approx 3.14 \cdot 7.5$$

$$C \approx 23.55$$

If the radius of a circle is 14 inches, what is its circumference?

Circumference = two times π times the radius

$\frac{22}{7}$ is also an approximation for π

The circumference of the circle is about 88 inches.

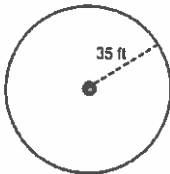
$$C = 2\pi r$$

$$C \approx 2 \cdot \frac{22}{7} \cdot 14$$

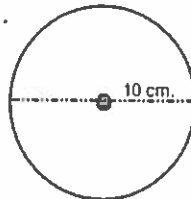
$$C \approx 88$$

Find the circumference of each circle. Use 3.14 for π (unless you are using a calculator).

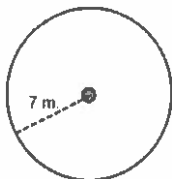
1.



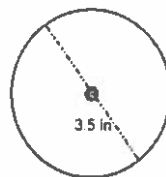
2.



3.



4.



5. $r = 5 \frac{1}{2}$ cm.

6. $d = 5$ km.

7. $r = 12 \frac{3}{4}$ ft.

8. $d = 6.3$ m.

9. What is the diameter of a circle whose radius is $8 \frac{2}{3}$ meters long?

10. What is the radius of a circle whose diameter is 20.35 centimeters long?

Area of Circles

- The area of a circle is equal to pi (π) times the square of the radius of the circle.

$$A = \pi r^2$$

Example: Find the area of the circle shown at the right.

First you have to find the radius

$$r = \frac{1}{2}d$$

$$r = \frac{1}{2}(250)$$

$$r = 125$$

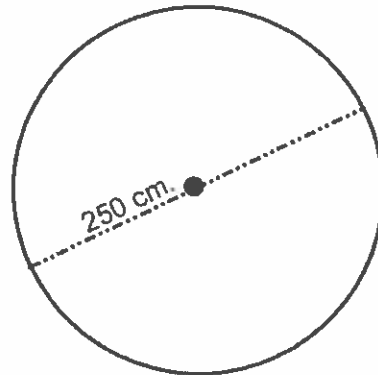
Then you find the area

$$A = \pi r^2$$

$$A = \pi(125^2)$$

$$A = \pi(15,625)$$

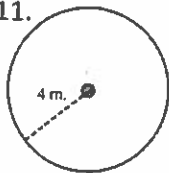
$$A \approx 49,062.5$$



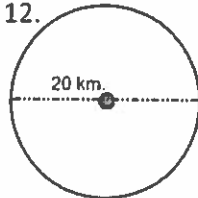
The area of the circle is about 49,062.5 sq. cm.

Find the area of each circle shown or described below. Show all work.

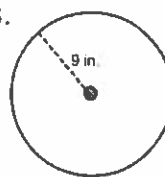
11.



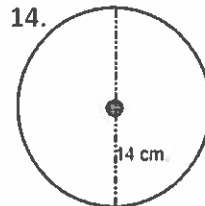
12.



13.

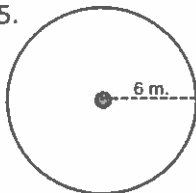


14.

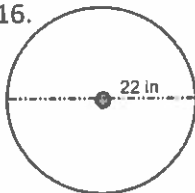


Find the area of each circle shown below. Round answers to the nearest hundredth. Show all work.

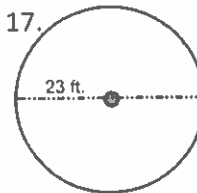
15.



16.

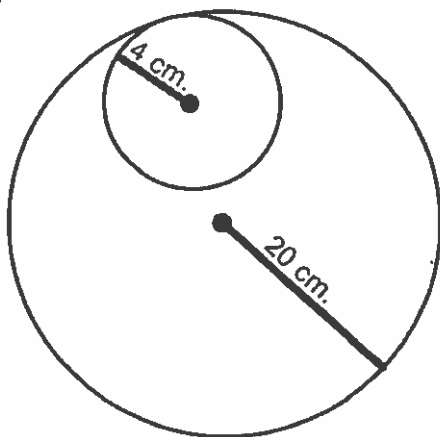


17.

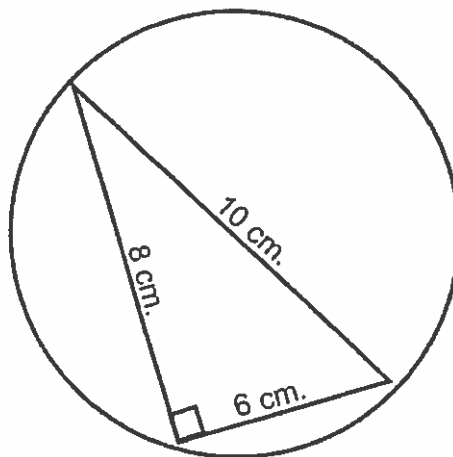


Find the shaded region. Show all formal work.

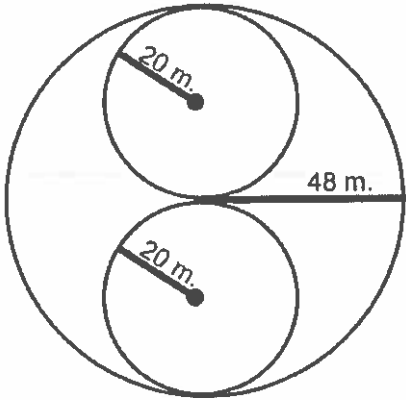
1.



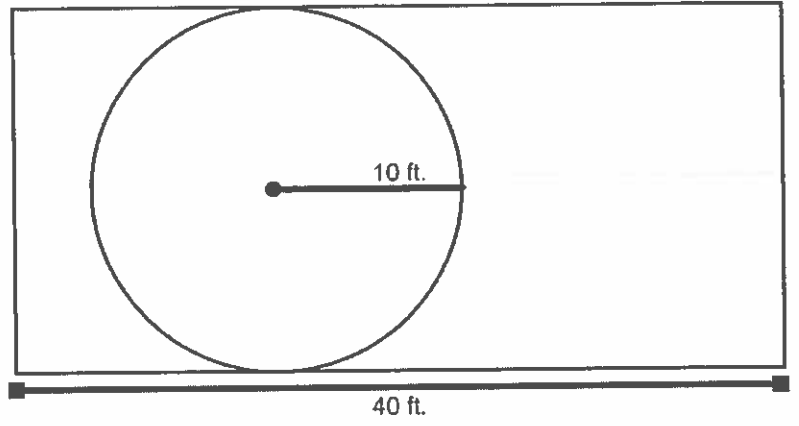
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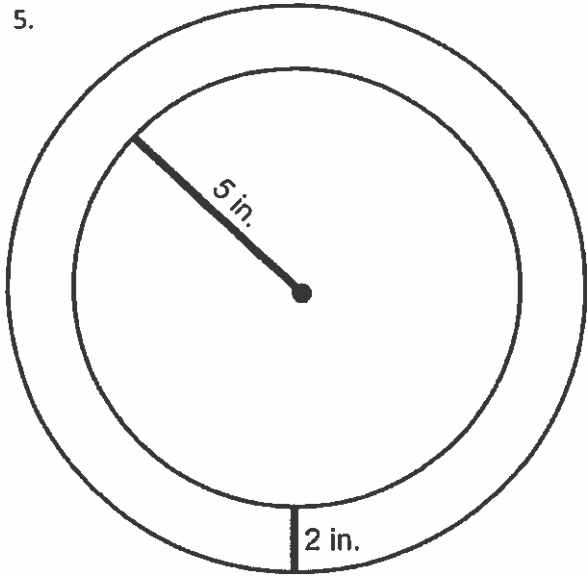
3.



4.



5.



6.

