Areas of Circles

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

**Example**

Find the area of the circle \( p \).

\[
A = \pi r^2 \quad \text{Area of a circle}
\]
\[
= \pi (6)^2 \quad r = 6
\]
\[
\approx 113.1 \quad \text{Use a calculator.}
\]

The area of the circle is about 113.1 square meters.

**Exercises**

Find the area of each circle. Round to the nearest tenth.

1. 

2. 

Find the indicated measure. Round to the nearest tenth.

3. The area of a circle is 153.9 square centimeters. Find the diameter.

4. Find the radius of a circle with an area of 63.6 square feet.
Formulas:  
1) Circumference \( C = \pi d \) or \( C = 2\pi r \)  
2) Diameter, \( d = 2r \) and radius, \( r = \frac{d}{2} \)  
3) Area of a circle, \( A = \pi r^2 \)

1) The radius of a circle is 5 inches. What is the  
(a) diameter  
(b) circumference  
(c) area  

2) The diameter of a circular rug is 5.6 feet.  
a) What is the radius?  
b) Circumference?  
c) Area?  

3) The diameter of your bicycle wheel is 34 inches. What is its radius? How far will you move in one turn of your wheel? What is the distance covered in 5 turns of the wheel?  

4) Find the following  
a) The circumference of a circle with a diameter of 15 cm.  
b) The area of a circle with a diameter of 480 in.  
c) The circumference of a circle with a area of 320 cm².  
d) The area of a circle with a circumference of 522 ft.
The radius, diameter, or circumference of a circle is given. Find the missing measures. Show your work

<table>
<thead>
<tr>
<th>Radius</th>
<th>Diameter</th>
<th>Circumference</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>10inch</td>
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</table>

|        |          | 76.4          | 10.4 |
|        |          |               |      |

|        |          | 314           |      |
|        |          |               |      |

|        | 1         |               |      |