

<b>Circle</b> Geometrically, a circle is all points that are the same distance from one point.
<b>Radius</b>  The radius is the distance from the center of the circle to the outside. We also saw that a radius is a line segment from the center of a circle to the outside of the circle.
<b>Diameter</b>  The diameter of a circle is the distance from one end to another, going through the center. The diameter of a circle is twice the radius.  $D = 2r$
<b>Circumference</b>  The circumference of a circle is the distance all the way around the circle. (if an ant walked the entire way around the circle.)
<b>Pi</b>  Pi ( $\pi$ ) is a Greek letter used to understand circles.  The circumference of a circle divided by the <i>diameter</i> is <i>always</i> equal to pi!  This is represented by the formula  $\pi = \frac{C}{D}$ or $C = 2\pi r$ <div style="text-align: right;"> <b>Make sure you know the significance and definition of pi! It's not just a cool number, it means something!</b> </div>
<b>Pi to 20 digits:</b>  3.1415926358979323846  (Memorize at least <b>15</b> It will not take you long.)
<b>Area of a Circle</b>  The area of a circle is given by this formula:  $A = \pi r^2$
<b>Tangent</b>  A line <i>tangent to</i> a circle is a line that touches the circle in exactly one point (just barely grazes the outside of the circle). A tangent line and a radius that intersect are <i>always perpendicular</i> !

1. If a circle has a circumference of 500 meters, what is its diameter?
2. If a circle has a circumference of 20 meters, what is its diameter?
3. If a circle has a circumference of 10 meters, what is its radius?
4. If a circle has a circumference of 50 meters, what is its radius?
5. If a circle has a diameter of 60 meters, what is its circumference?
6. If a circle has a diameter of 90 meters, what is its circumference?
7. If a circle has a radius of 5 meters, what is its circumference?
8. If a circle has a radius of 9 meters, what is its circumference?
9. If a circle has a radius of 6 meters, what is its area?
10. If a circle has a radius of 17 meters, what is its area?

11. If a circle has a diameter of 23 meters, what is its area?
  
  
  
  
  
  
  
  
  
  
12. If a circle has a diameter of 39 meters, what is its area?
  
  
  
  
  
  
  
  
  
  
13. If a circle has a circumference of 40 meters, what is its area?
  
  
  
  
  
  
  
  
  
  
14. If a circle has a circumference of 3 meters, what is its area?
  
  
  
  
  
  
  
  
  
  
15. Write pi to 10 digits!!!

**ANSWERS**

**1.** 159 meters

**2.** 6.4 meters

**3.** 1.6 meters

**4.** 8.0 meters [or 7.958 meters]

**5.** 188.5 meters

**6.** 283 meters

**7.** 31.4 meters

**8.** 56.5 meters

**9.** 113 m<sup>2</sup>

**10.** 908 m<sup>2</sup>

**11.** 415 m<sup>2</sup>

**12.** 1195 m<sup>2</sup>

**13.** 127.3

**14.** 0.716

**15.** 3.141592653