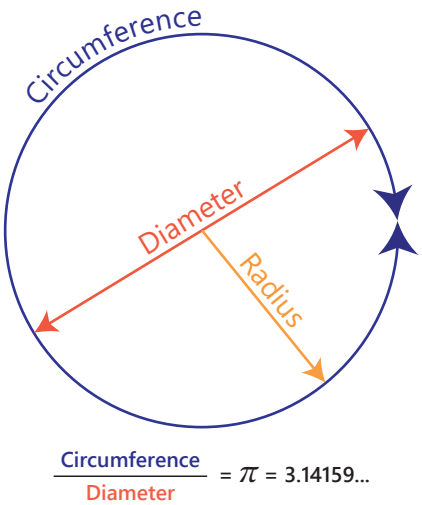
How to Use Pi

Pi (often represented by the lowercase Greek letter π), one of the most well-known mathematical constants, is the ratio of a circle's circumference to its diameter. For any circle, the distance around the edge is a little more than three times the distance across.



Circumference of a Circle:
When trying to find the circumference of any circle, simply multiply the diameter by π, like this: πd = circumference. Since the radius of any circle is half of its diameter, we can change this formula by substituting 2 times the radius in for diameter: $C = 2\pi r$.

Area of a Circle:
To find the area of a circle using pi, we multiply the radius (half the diameter) by itself, so we get radius squared: r^2. Then we multiply radius squared by π. See the following formula: $A = r\pi^2$.

Pi Practice Questions

Now that you have the basics down, let's try some practice questions. When doing these practice questions and multiplying something by π, round to the hundredths place (3.14) to make things simpler.

1. A circle has a radius of 23 cm. Which of the following is the best estimate for the circumference of the circle? (Hint: plug the radius of 23 cm into the formula for circumference: $C = 2\pi r$.)

   a. 71.76 cm
   b. 143.52 cm
   c. 144.44 cm
   d. 72.22 cm

Don't forget to show your work!

2. The radius of a circle is 6 inches. What is the area?

   a. 18.84 in^2
   b. 37.68 in^2
   c. 87.98 in^2
   d. 113.04 in^2

For more math help and pi-related activities, head to PiDay.org! Happy Pi Day!

Question 1: C. The circumference of a circle can be determined by using the formula $C = 2\pi r$. Substitution of 23 cm for r and 3.14 for π gives the following: $C = 2(3.14)(23)$, which equals 144.44. Thus, the circumference of the circle is approximately 144.44 cm.
Question 2: D. The formula for the area of a circle is $A = \pi r^2$. Substituting 3.14 for π and 6 for r results in 113.04 in^2.