



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: $d\pi = \text{circumference}$. 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: $(2r)\pi = \text{circumference}$.

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, like this: r^2 , where "r" represents the radius. Then we multiply radius squared by pi. See the following formula: The area of a circle = πr^2 .

Pi Practice Questions

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

1. Practice Circumference Question: 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: $(2r)\pi = \text{circumference}$)

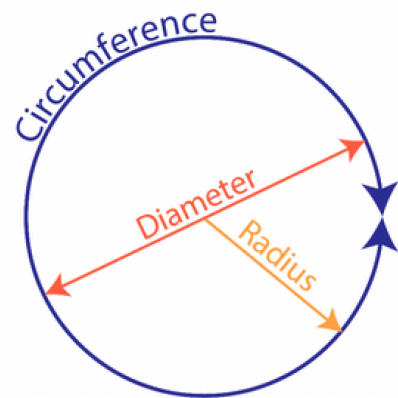
- a. 71.76 cm
- b. 143.52 cm
- c. 144.44 cm
- d. 72.22 cm

2. Practice Area Question: The radius of a circle is 6 inches. What is the area?

- a. 18.84 in²
- b. 37.68 in²
- c. 87.98 in²
- d. 113.04 in²

Find out how you did by checking your work against the answers below. For more math help and pi related activities, head to PiDay.org! Happy Pi Day!

Circumference of a Circle



$$\frac{\text{Circumference}}{\text{Diameter}} = \pi = 3.14159\dots$$



Don't forget
to show
your work!

Question 1 - C: The circumference of a circle can be determined by using the formula $C = \pi d$. A radius of 23 cm indicates a diameter of 46 cm, or twice that length. Substitution of 46 cm for d and 3.14 for π gives the following: $C = 3.14 \times 46$, 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 $A = \pi r^2$.