

Discovering Pi:

Student Worksheet:

name: _____

In **Show Math**, you discover some interesting properties about Pi. In this activity you will discover Pi for yourself by measuring the circles below.

How to Discover Pi

1. Measure the diameter of each circle on the next page.
2. Use your string to measure the circumference of the circle. Mark the place where the string meets and measure that distance with a ruler.
3. Fill in your chart below.
4. Calculate the ratio circumference to diameter and record in the chart below.
5. Calculate the average ratio for your 5 circles.

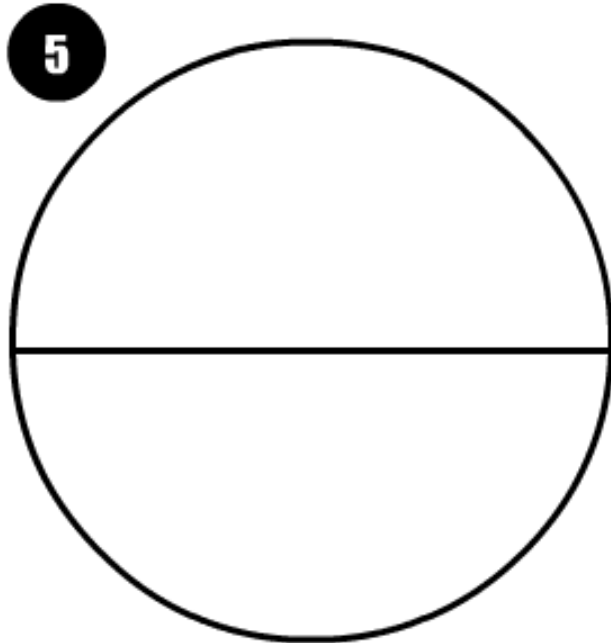
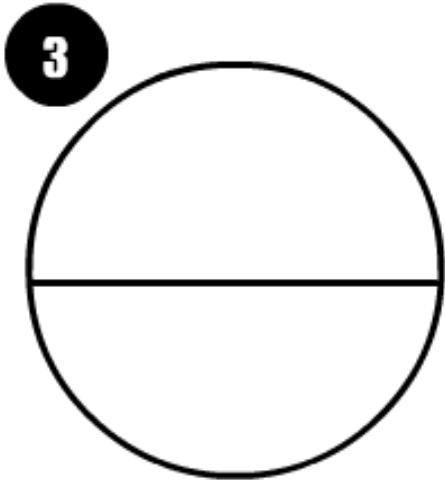
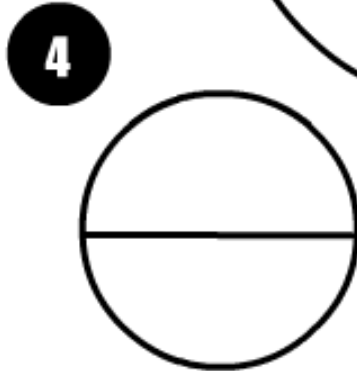
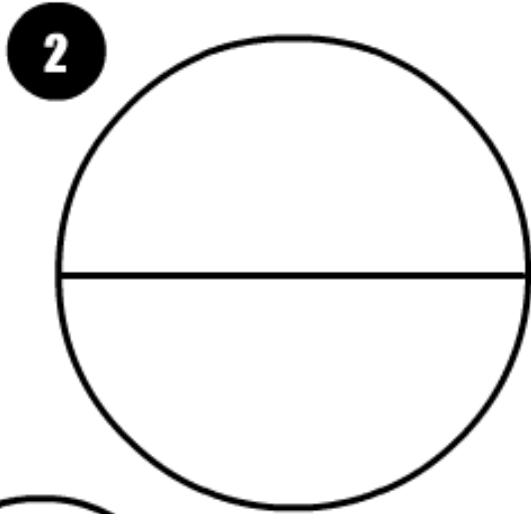
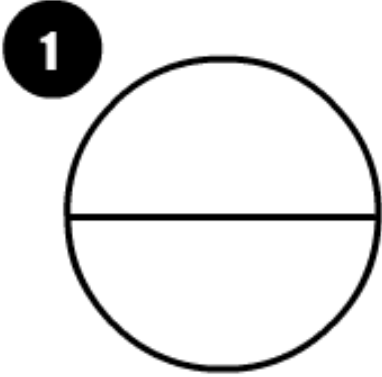
Circle Number	Diameter	Circumference	Ratio (Circumference ÷ Diameter)
1			
2			
3			
4			
5			

Diameter

The diameter of a circle is any straight line segment that passes through the center of the circle and whose endpoints are on the circle.

Circumference

The circumference of a circle is the distance around the circle.



1. What is the average ratio of circumference to diameter?

2. What was the class average ratio of circumference to diameter?

3. Pi is often approximated to be 3.14. How close was your group's average to this approximation? How close was that class average?

4. Were any of your measurements far from Pi? Why is that?

5. Why is it important to measure circles of different sizes?

6. Should taking the class average provide you with a better approximation of Pi? Why or why not?

7. Can you derive the formula for circumference of a circle by knowing that Pi is the ratio of diameter to circumference?