

Fun with Π

An investigation into the relationship between the circumference and diameter of a circle

Section 1

Directions: You will be given several circular objects. Measure the circumference (distance around the object) and the diameter (a line through the center of a circle joining two points) to the nearest millimeter. Record the name's object and measurements below.

- | | | |
|-----------------|---------------------|----------------|
| 1. Object _____ | Circumference _____ | Diameter _____ |
| 2. Object _____ | Circumference _____ | Diameter _____ |
| 3. Object _____ | Circumference _____ | Diameter _____ |
| 4. Object _____ | Circumference _____ | Diameter _____ |
| 5. Object _____ | Circumference _____ | Diameter _____ |

Section 2

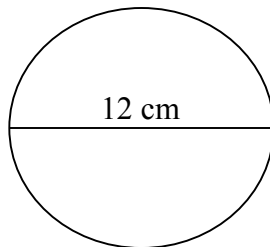
Directions: Now find the ratio of the circumference to the diameter. For instance, if the object has a circumference of 343 mm and the diameter is 108 cm, the ratio would be:

$$343 \text{ mm}/109 \text{ mm}$$

After you have found the ratio, divide the circumference by the diameter. What is the result?

- | | | |
|------------------|-------------|----------------|
| 6. Object _____ | Ratio _____ | Quotient _____ |
| 7. Object _____ | Ratio _____ | Quotient _____ |
| 8. Object _____ | Ratio _____ | Quotient _____ |
| 9. Object _____ | Ratio _____ | Quotient _____ |
| 10. Object _____ | Ratio _____ | Quotient _____ |

Now you can use this information to develop the formula for finding the circumference of a circle when given the diameter. For instance, you are given the following circle.



How can you find the circumference? Write a formula (a rule for finding the circumference, written as an equation) and then use the diameter from above to find the circumference of the circle.