

Unit 6: Circles

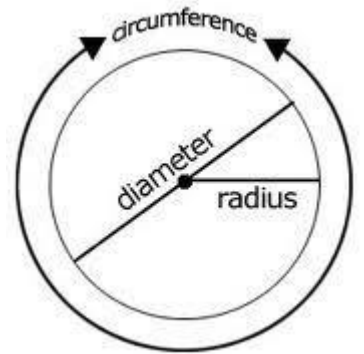
Day 1 Circumference and Area of a Circle (PH 1-7)

Name: _____

Date: _____ Hour: _____

A **radius** of a circle is the distance from the center to the edge of the circle.

A **diameter** of a circle is the distance across the circle from one side to another. It always passes through the center. It is formed with two opposite radii.



$$d = 2r$$

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

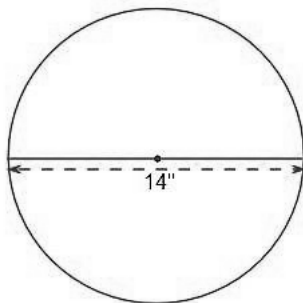
$$C = 2\pi r \quad \text{or} \quad C = \pi d$$

The ratio of the circumference to the diameter of any circle is always equal to the same value, **π** . The number **π** is an irrational number. The symbol for pi is π .

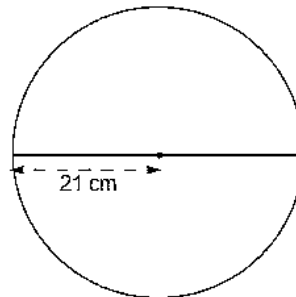
$$\frac{C}{d} = \pi \quad \text{and} \quad \pi = 3.141592\dots$$

Example 1: Find the circumference of each circle. Write the answer in terms of π and also as a decimal rounded to the nearest tenth. Use the approximation $\pi = 3.14$.

a.



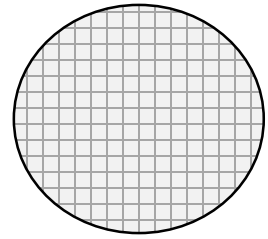
b.



Example 2: You walk around a circle which has a diameter of 100m, how far have you walked? Round to the nearest meter.

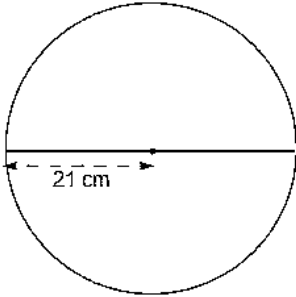
The **area** of a circle is the number of square units it encloses.

$$A = \pi r^2$$

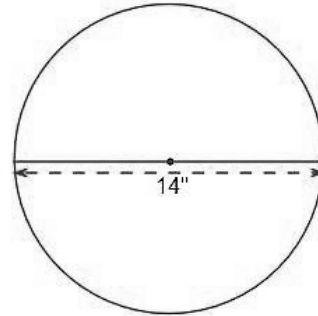


Example 3: Find the area of each circle. Write the answer in terms of π and also as a decimal rounded to the nearest tenth. Use the approximation $\pi = 3.14$.

a.



b.



Example 4: A circular pond has a radius of 10 feet. To the nearest foot, what is the surface area of the pond?

Example 5: A circular garden has a radius of 15 m.

a. The owner wants to put a plastic edge around the garden. Does he need to know the circumference or the area of the garden? How much fence does he need to buy?

b. The owner wants to spray fertilizer over the surface of the garden. Does he need to know the circumference or the area? How much surface does the fertilizer need to cover?