Geometry Lesson 23

Objective: TSW understand and find values for different measurements of circles.

_____ - The set of points in a plane that are a fixed distance from a given point.

_____ – The point at the center of the circle.

To name a circle - Use the ⊙ symbol and the center point. For example, ⊙A is read, "circle A."

_____ - All the points within the circle.

_____ – Any segment whose endpoints are the center of the circle and a point on the circle.

_____ - Any segment with both endpoints on the circle that passes through the center. The length of a diameter is always twice the length of a radius.

Two circles are congruent if they have congruent radii.
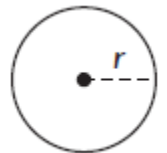
Example 1 Naming Parts of a Circle

Identify a diameter, a radius, and the center of the circle at right.

   SOLUTION
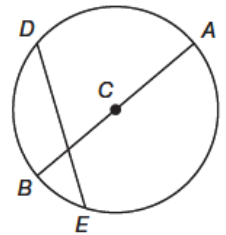
Circumference of a Circle – The perimeter of the circle or distance around the circle.
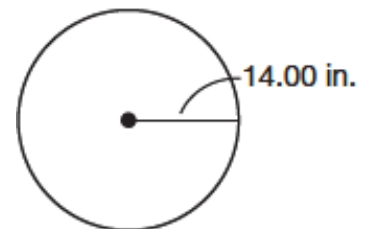
_____   or   _____

Pi, represented by the symbol π, is an irrational number that is defined as the ratio of the circumference of a circle to its diameter.

π ≈ _____ or π ≈ _____

Example 2 Finding Circumference

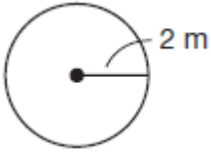Find the circumference of the circle to the nearest hundredth of an inch. Use 3.14 for π.

   SOLUTION

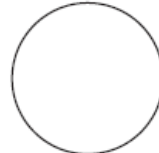Area of a Circle - To find the area (A) of a circle, use the formula below, where r is the circle's radius.

_____

Example 3 Finding Area

Find the area of each circle to the nearest hundredth of a square unit. Use 3.14 for π.

2 m

a.

SOLUTION

b. ⊢— 26 in.—⊣

SOLUTION

Example 4 Application: Urban Design and Planning

A dog park is being constructed with a circular fence surrounding the park. The fence has a radius that is 50 yards long. Use 3.14 for π.

a. What is the distance around the fence to the nearest yard?

SOLUTION

b. Approximately how many square yards of sod would be needed to completely cover the area inside the fence with grass?

SOLUTION

You Try!!!!!!

a. Draw ⊙P with a radius, a diameter, and the center labeled.

c. Find the area of a circle with a radius of 31 centimeters. Use 3.14 for π and round to the nearest hundredth of a square centimeter.

d. Find the area of a circle with a diameter of 1 yard. Use 3.14 for π and round to the nearest hundredth of a square yard.