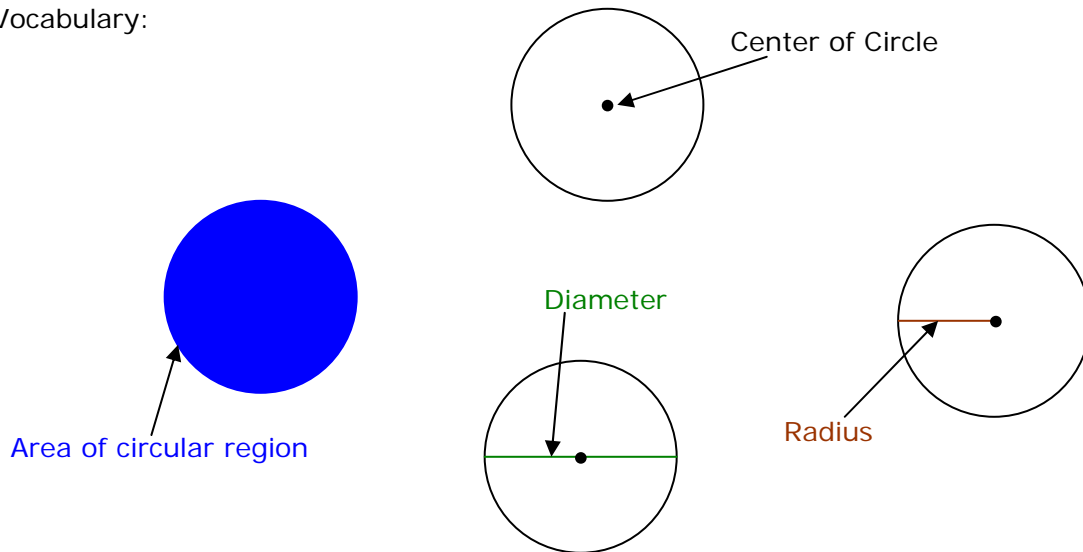


Finding the Area of a Circular Region

Windjammer Center, Aquatic Adventure Subtask 3: Include some goldfish.

Vocabulary:



The formula for the area of a circular region is: $A = \pi r^2$ where r represents the radius of the circle.

Example 1: The **radius** of a circle is **8 meters**. Find the area of the circle.

$$\begin{aligned} A &= \pi r^2 \\ A &= \pi(8\text{ m})^2 \\ A &= \pi(64\text{ m}^2) \\ A &\approx 201.06\text{ m}^2 \end{aligned}$$

Answer: The area of the circle is about 201.06 m².

Example 2: The **diameter** of a circle is **8 meters**. Find the area of the circle.

The **diameter** is **8 meters**, so the **radius** is half of 8 meters. The **radius** is **4 meters**.

$$\begin{aligned} A &= \pi r^2 \\ A &= \pi(4\text{ m})^2 \\ A &= \pi(16\text{ m}^2) \\ A &\approx 50.27\text{ m}^2 \end{aligned}$$

Answer: The area of the circle is approximately 50.27 m².