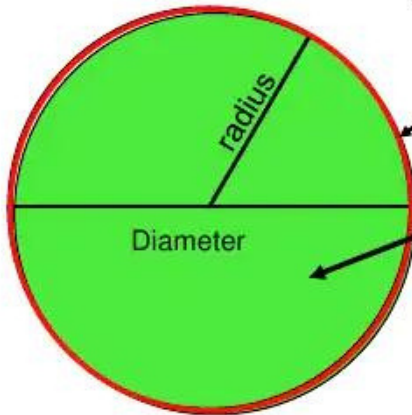


Introduction to Circle

The Area and Perimeter of a Circle

A circle is defined by its diameter or radius



The perimeter or circumference of a circle is the distance around the outside

The area of a circle is the space inside it

The ratio of $\frac{\text{circumference}}{\text{diameter}} = \pi$ (pi)

π is an irrational number whose value to 15 decimal places is $\pi = 3.14159265358979\dots$ We usually say $\pi \approx 3.14$

The circumference is found using the formula

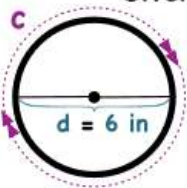
$$C = \pi d \quad \text{or} \quad C = 2\pi r \quad (\text{since } d = 2r)$$

The area is found using the formula

$$A = \pi r^2$$

Assignment

Find the **Circumference**
Given the **Diameter**

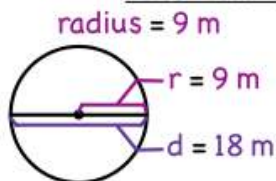


$$C = \pi d$$

$$C = 3.14(6 \text{ in})$$

$$\begin{array}{r} 3.14 \\ \times \quad 6 \\ \hline 18.84 \end{array}$$

Find the **Diameter**



Formula:

$$d = 2r = 2(9 \text{ m}) = 18 \text{ m}$$

Example 2:

$$r = 6 \text{ cm} \quad d = ?$$

$$d = 2r$$

$$= 2(6 \text{ cm})$$

Fill in the blanks.

| Diameter | Circumference |
|----------|---------------|
| 15 cm | ----- |
| ----- | 314 feet |
| 30 yd | ----- |
| ----- | 25.12 km |
| 41 miles | ----- |
| ----- | 6.28 mm |