
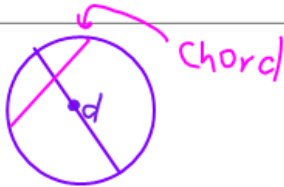



## Lesson 6-1

<i>radius</i>	Decode <i>ra·di·us</i>
Definition <i>center → side</i>	Example 
<i>diameter</i>	Decode <i>di·am·eter</i>
Definition <i>side → side and through the center</i>	Example 
<i>circumference</i>	Decode <i>circum·fer·ence</i>
Definition <i>distance around the outside of a circle</i>	Example 

*Perimeter*



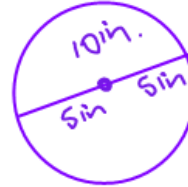
## Lesson 6-1

### Circumference of a Circle

$$C = \pi d$$

OR

$$C = 2\pi r$$



Why do these two equations mean the same thing?

the diameter is twice the radius

### Example 1: Finding Circumference

Find the circumference of each circle. Round to tenths.

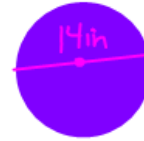
I Do	We Do
circle with radius 5 cm $C = 2\pi r$ $C = 2 \cdot \pi \cdot 5$ $C = 31.4 \text{ cm}$	circle with radius 9 in $C = 2 \cdot \pi \cdot 9$ $\approx 56.5 \text{ in}$

I Do	We Do
circle with diameter 12 cm $C = \pi d$ $= \pi \cdot 12$ $\approx 37.7 \text{ cm}$	circle with diameter 15 in $C = \pi \cdot 15$ $\approx 47.1 \text{ in.}$

# Lesson 6-1

## Area of a Circle

$$A = \pi r^2$$



What would you do if the question gave you the diameter and there is no formula for area of a circle using diameter?

Divide the diameter by two

### Example 2: Finding Area

Find the area of each circle.

I Do	We Do
circle with radius 5 cm $A = \pi r^2$ $= \pi \cdot 5^2$ $\approx 78.5 \text{ cm}^2$	circle with radius 9 in $A = \pi \cdot 9^2$ $= 254.5 \text{ in}^2$

I Do	We Do
circle with diameter 12 cm $A = \pi r^2$ $= \pi \cdot 6^2$ $= 113.1 \text{ cm}^2$	circle with diameter 15 in $A = \pi \cdot 7.5^2$ $= 176.7 \text{ in}^2$

# Lesson 6-1

## Example 3: Finding Area or Circumference

I Do ↓	We Do
Graph a circle with center (3, -3) that goes through the point (0, -3). Find the circumference. $C = \pi d$ $C = \pi \cdot 6$ $\approx 18.8 \text{ units}^2$	Graph a circle with center (-4, 2) that goes through the point (-2, 2). Find the area. $A = \pi r^2$ $= \pi \cdot 2^2$ $= \pi \cdot 4$ $\approx 12.6 \text{ units}^2$

