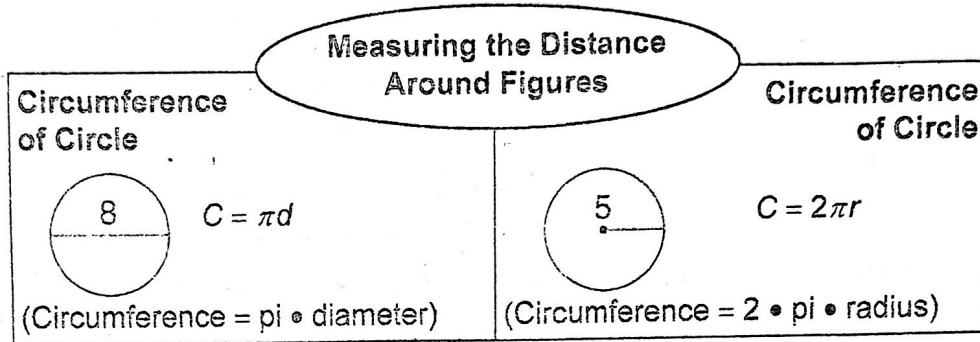LESSON
9-?

Circumference

Reading Strategies: Using a Graphic Organizer

Perimeter is the distance around a polygon.

The chart below shows formulas for finding the circumference of circles.

Use the information in the chart above to complete each exercise.

1. If you knew the radius of a circle, what formula would you use to find its circumference?

   _____

2. If you knew the diameter of a circle, what formula would you use to find its circumference?

   _____

3. How does the length of the diameter of a circle relate to the length of the radius of that same circle?

   _____

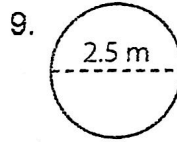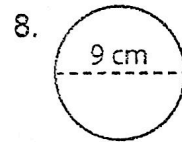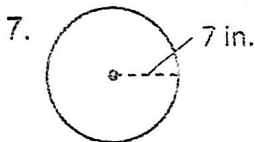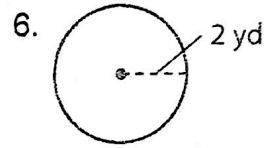4. What values of π can you use to approximate the circumference of a circle?

   _____

5. How does the circumference of a circle relate to the perimeter of a polygon?

   _____

   _____

LESSON
9-1
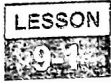
Circumference

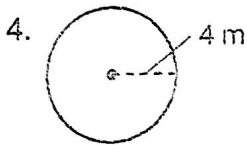*Practice and Problem Solving: A/B*

Find the circumference of each circle. Use 3.14 or $\frac{22}{7}$ for π. Round to the nearest hundredth, if necessary.

1.

6 in.

_____

2.

9 cm

_____

3.

1.5 ft

_____

4.

4 m

_____

5.

12 ft

_____

6.

2 yd

_____

7.

7 in.

_____

8.

9 cm

_____

9.

2.5 m

_____
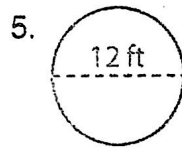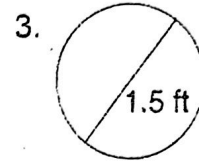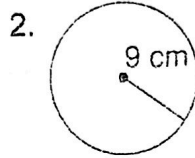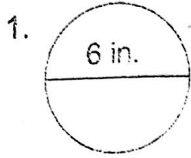
Solve.

10. A circular swimming pool is 21 feet in diameter. What is the circumference of the swimming pool? Use $\frac{22}{7}$ for π.
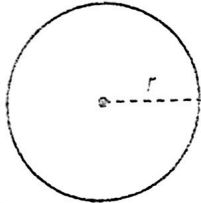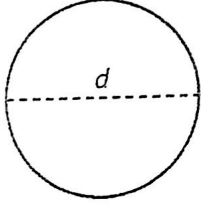
_____

11. A jar lid has a diameter of 42 millimeters. What is the circumference of the lid? Use $\frac{22}{7}$ for π.

_____

12. A frying pan has a radius of 14 centimeters. What is the circumference of the frying pan? Use $\frac{22}{7}$ for π.
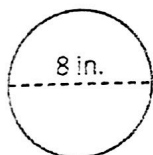
_____

LESSON **Area of Circles**
9-2

Reading Strategies: Make Connections

Radius	Diameter
$A = \pi r^2$ $\pi \approx 3.14$ or $\dfrac{22}{7}$	$A = \pi r^2$ $r = \dfrac{d}{2}$ $A = \pi \left(\dfrac{d}{2}\right)^2$

Find the area of each circle in terms of π. Then find the estimated area using 3.14 for π.

8 in.

Think: Do I know the diameter or the radius?
The radius goes across half the circle. The diameter goes across the whole circle.

The diameter. I can find the radius by dividing the diameter by 2.

$A = \pi r^2$

$r = \dfrac{d}{2}$

$A = \pi \left(\dfrac{8}{2}\right)^2 = \pi \cdot 4^2 = 16\pi$

In terms of π, the area is 16π in.^{2}
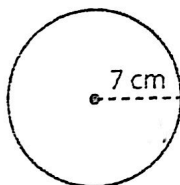To find the estimated area, use 3.14 for π.

$A = 16\pi$
$= 16 \cdot 3.14$
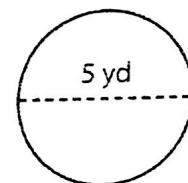$= 50.24$ in^2

Find the area of each circle in terms of π. Then find the estimated area using 3.14 for π.

1. _____
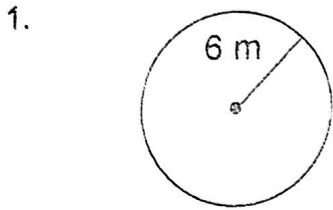
_____

7 cm
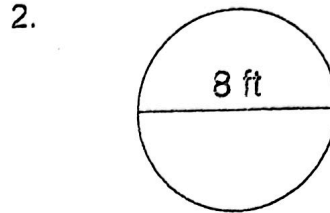
2. _____

_____

5 yd

**LESSON
9-2**

Area of Circles

Practice and Problem Solving: A/B

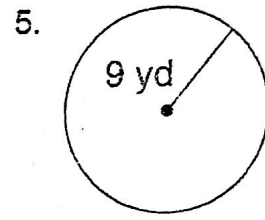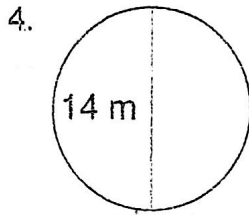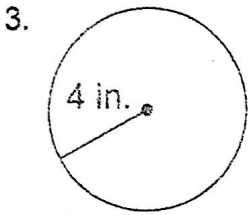Find the area of each circle to the nearest tenth. Use 3.14 for π.

1.

6 m

A 113 m²	C 354.9 m²
B 37.7 m²	D 452.16 m²

2.

8 ft

A 201 ft²	C 25.1 ft²
B 50.2 ft²	D 157.8 ft²

3.

4 in.

_____

4.

14 m

_____

5.

9 yd

_____

Find the area of each circle in terms of π.

6.

2 cm

_____

7.

7.4 cm

_____

8.

10 in.

_____

9.

22 mm

_____

10.

2.5 ft

_____

11.

6 m

_____