

Sixth Grade Objective: 2.02 Solve problems involving perimeter/circumference and area of plane figures. 3.02 Identify the radius, diameter, chord, center, and circumference of a circle; determine the relationship between them.

Vocabulary:

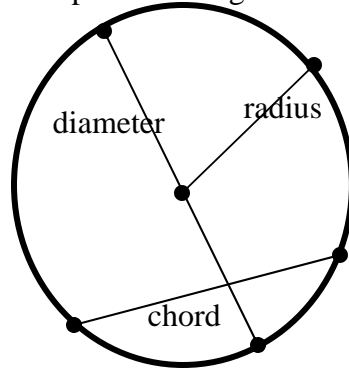
area- The measure of the region that is inside a closed plane figure.

circumference: the distance around the outside of the circle

chord- a line segment which has its end points on the edge of the circle

radius- the distance from the center of the circle to the outside edge

diameter- a chord that passes through the middle of the circle



Formulas for Circles:

Area of a circle= radius • radius • π

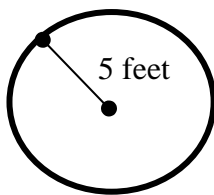
Circumference = diameter • π

Diameter= 2 • radius

Radius= $\frac{1}{2}$ of the diameter

Volume:

Using these formulas we can determine the diameter, radius, circumference and area of the following circle. Assume $\pi= 3.14$



radius= 5 feet

diameter= $r \cdot 2$

$d= 5 \cdot 2$

$d= 10$ feet

circumference= $d \cdot 3.14$

$c= 10 \cdot 3.14$

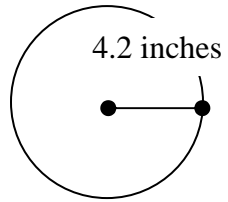
$c= 31.4$ feet

area= $5 \cdot 5 \cdot 3.14$

$a= 78.5$ square feet

Try these on your own! Use a calculator to determine the diameter, radius, circumference and area of the following circles. Use 3.14 for π .

1.



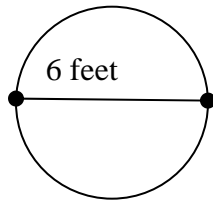
Diameter=

Radius=

Circumference=

Area=

2.



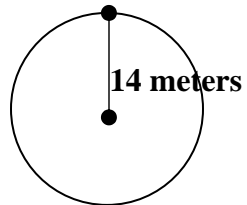
Diameter=

Radius=

Circumference=

Area=

3.



Diameter=

Radius=

Circumference=

Area=

Check your answers

1. Diameter= 4.2 in
Radius= 2.1 in
Circumference= 13.188 in
Area= 13.8474 square in
2. Diameter= 6 feet
Radius= 2 feet
Circumference= 18.84 feet
Area= 12.56 square feet
3. Diameter= 28 m
Radius= 14 m
Circumference= 87.92 m
Area= 615.44 square m

Quiz Yourself-

Find the area and circumference. Use $\pi=3.14$

1. $r = 7$ feet
2. $d = 8$ meters
3. $r = 11$

Check Your Answers

1. area= 153.86 square ft
perimeter= 43.96 feet
2. area= 50.24 square meters
perimeter= 25.12 meters
3. area= 379.94 sq ft
perimeter= 69.08 ft