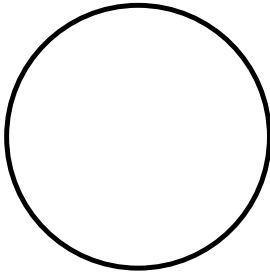


# 5.4 Area and Circumference

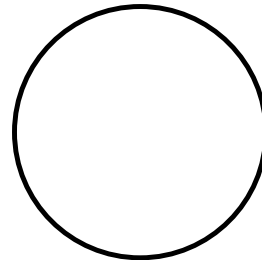
Objective: Students will be able to find the area and perimeters of circles

## Area vs. Circumference

Area is a measure of how much \_\_\_\_\_ there is **in** a shape



Circumference is the distance \_\_\_\_\_ a shape

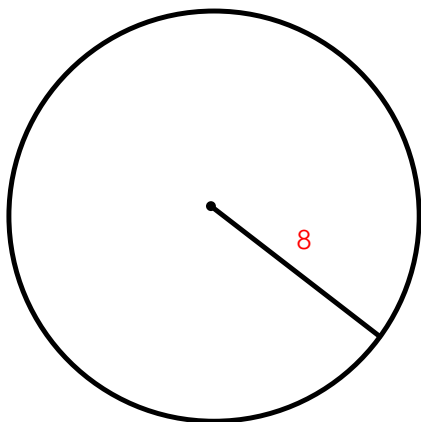


**Do I need to find the area or circumference to answer the following questions?**

The amount of cheese I need to cover the pizza.

The length of the crust around a pizza?

**Find the area of the circle below**



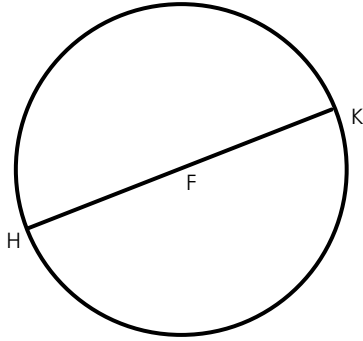
$$\text{Area} = \pi \times \text{radius}^2$$

$$\text{Area} = \pi \times ( \quad )^2$$

$$\text{Area} = \frac{\quad}{\text{In radians}}$$

$$\text{Area} = \frac{\quad}{\text{Decimal}}$$

$\overline{HK}$  is the diameter of circle F. If  $HK = 12$ , what is the area of circle F?



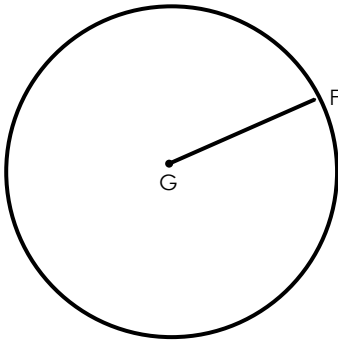
$$\text{Area} = \pi \times \text{radius}^2$$

$$\text{Area} = \pi \times ( \quad )^2$$

$$\text{Area} = \frac{\quad}{\text{In radians}}$$

$$\text{Area} = \frac{\quad}{\text{Decimal}}$$

$\overline{FG}$  is the radius of circle G. If  $FG = 10$ , find the circumference of circle G.

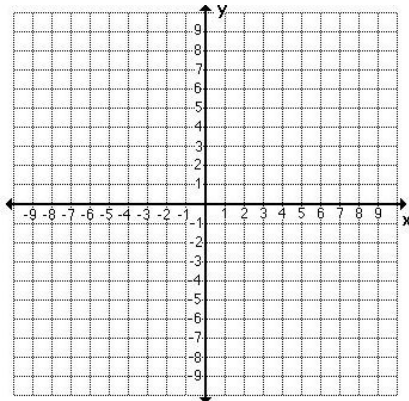


$$\text{Circumference} = 2 \times \pi \times \text{radius}$$

$$\text{Circumference} = 2 \times \pi \times ( \quad )$$

$$\text{Circumference} = \frac{\quad}{\text{In radians}}$$

$$\text{Circumference} = \frac{\quad}{\text{Decimal}}$$

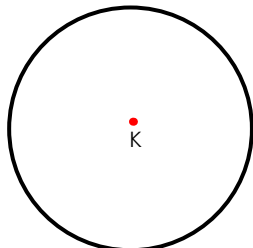


Circle M had a diameter with points located at  $(-1, -3)$  and  $(5, -3)$ . Find the area of Circle M, answer in radians and as a decimal.

$$\text{Area} = \frac{\quad}{\text{In radians}}$$

$$\text{Area} = \frac{\quad}{\text{Decimal}}$$

If the area of circle K is  $196\pi$ , find the radius of the circle K.

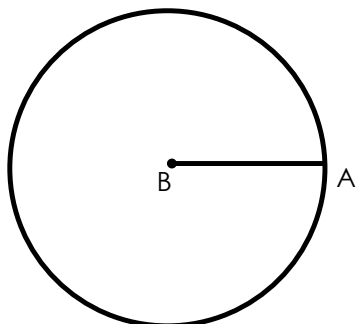


$$\text{Area} = \pi \times \text{radius}^2$$

$$\frac{\quad}{\quad} = \pi \times \frac{\quad}{\quad}^2$$

## Independent Practice

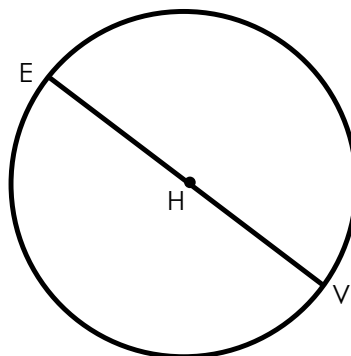
$\overline{AB}$  is the radius of circle B. If  $AB = 7$ , find the circumference of circle B. Answer in radians and a decimal to the nearest hundredth.



Circumference = \_\_\_\_\_  
In radians

Circumference = \_\_\_\_\_  
Decimal

$\overline{EV}$  is the diameter of circle H. If  $EV = 18$ , find the area of circle H. Answer in radians and a decimal to the nearest hundredth.

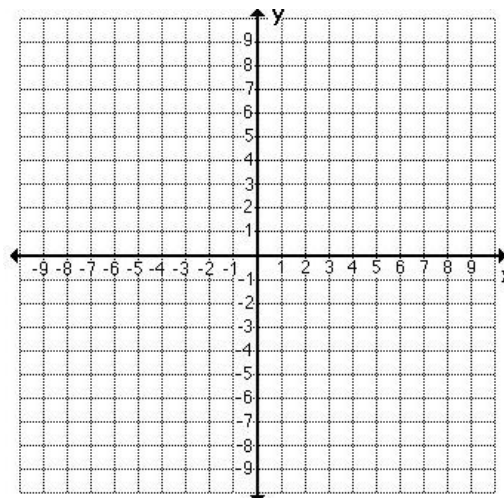


Area = \_\_\_\_\_  
In radians

Area = \_\_\_\_\_  
Decimal

In circle P, the length of the radius is 4. Find the area of the circle. Answer in radians and a decimal to the nearest tenth.

Circle K had a diameter with points located at  $(-5,2)$  and  $(3,2)$ . Find the circumference of Circle K, answer in radians and as a decimal



Area = \_\_\_\_\_  
In radians

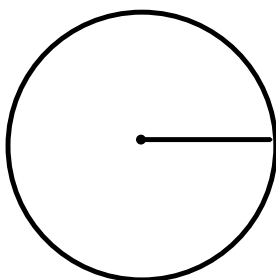
Area = \_\_\_\_\_  
Decimal

Circumference = \_\_\_\_\_  
In radians

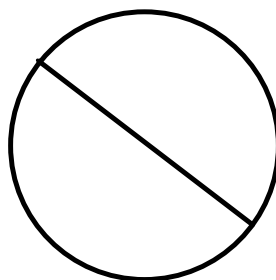
Circumference = \_\_\_\_\_  
Decimal

Which is greater, the area of a circle with a diameter of 20 or the circumference with a circle with a radius of 48?

If the area of the circle below is  $225\pi$ , what is the length of the radius?



If the circumference of the circle below is  $36\pi$ , what is the length of the **diameter**?



Mr. Siegel keeps missing shots when he plays basketball. He thinks the rim is too small and measures the diameter of it and finds out it has a diameter of 18 inches. If an official basketball rim is suppose to be 56.52 inches around, is Mr. Siegel's rim smaller than the official size or does he just suck at basketball?