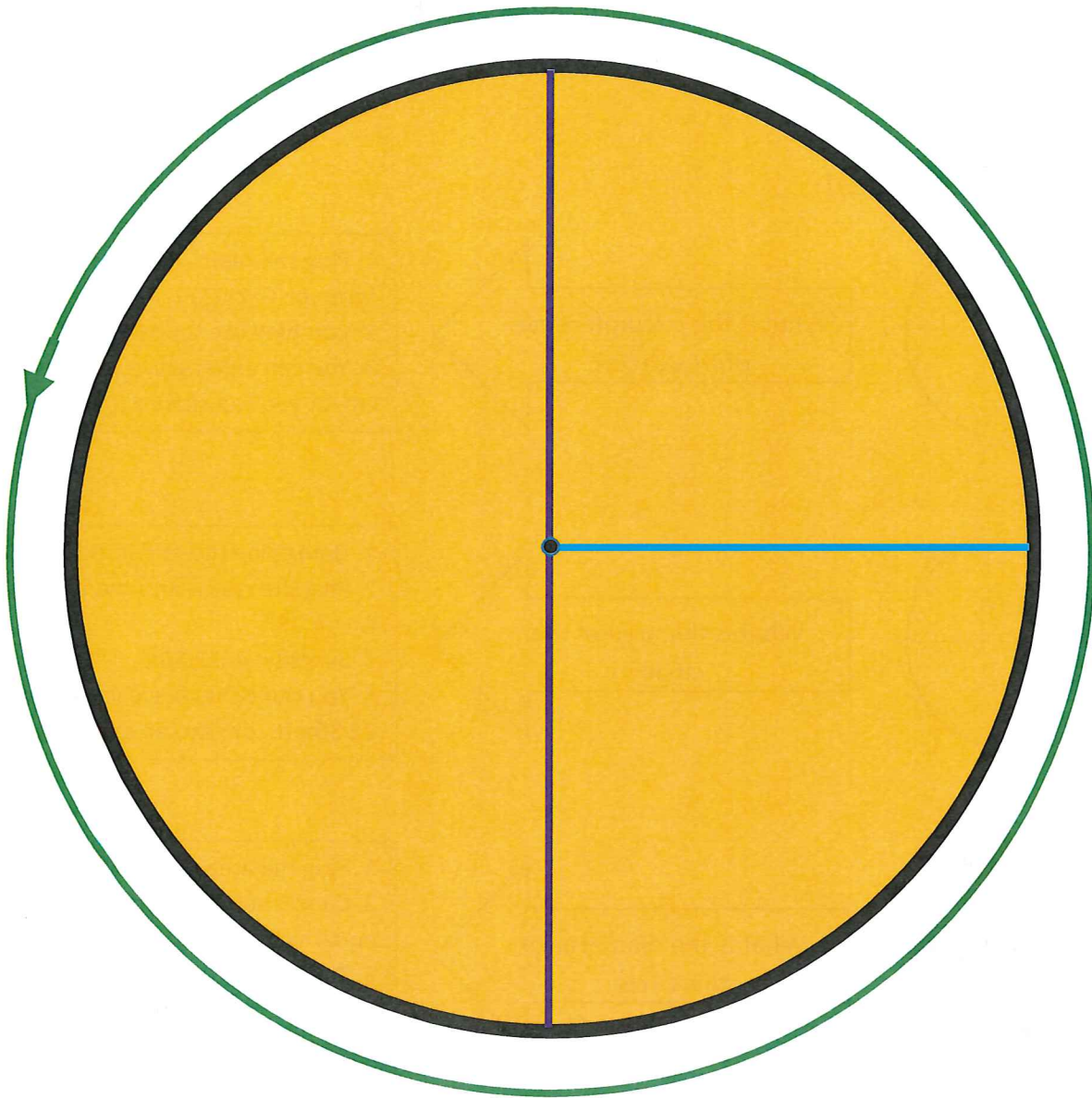


# CIRCLES!



**Radius:** The length from the center of a circle to its perimeter ( $r$ ).

**Diameter:** The length from one end of the circle to the other ( $d$ ).

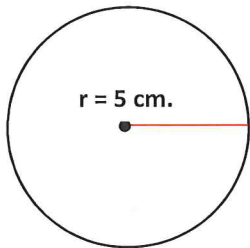
**Circumference:** The distance around a circle. **Formula:**  $C=\pi d$  or  $C=2\pi r$

**Area:** The number of square units inside a circle. **Formula:**  $A=\pi r^2$

### Tips:

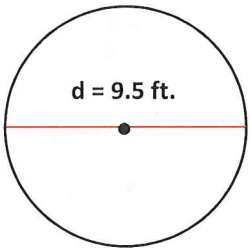
- If you are given the radius, you can double it to determine the diameter. So, if the radius is 7 inches, the diameter is 14 inches.
- If you are given the diameter, you can halve it to determine the radius. So, if the diameter is 22 feet, the radius is 11 feet.

### Practice Problems:



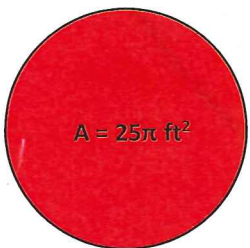
What is the circumference of this circle?

1. Plug the radius ( $r$ ) into the circumference formula:  $C=2\pi(5)$
2. Combine like terms:  $C=10\pi$
3. You can either leave your answer as  **$10\pi$  cm**, or you can change it to **31.4 cm**.



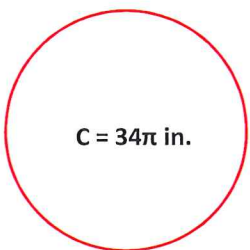
What is the area of this circle?

1. Determine the radius:  $9.5/2 = 4.75$  ft.
2. Plug the radius into the area formula:  $A=\pi(4.75)^2$
3. Simplify:  $A=22.56\pi$
4. You can either leave your answer as  **$22.56\pi$  ft.**, or you can change it to **70.84 ft.**



What is the diameter of this circle?

1. Plug the area into the formula:  $25\pi=\pi r^2$
2. Cancel out the pi on both sides of the equal sign:  $25=r^2$
3. Take the square root of both sides:  $5=r$
4. Double this number in order to find the diameter:  **$d=10$  feet.**



What is the radius of this circle?

1. Plug the circumference into the formula:  $34\pi=2\pi r$
2. Cancel out the pi on both sides of the equal sign:  $34=2r$
3. Divide both sides by two to get your final answer:  **$r=17$  inches.**