

# Lesson 10-3 Notes

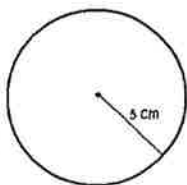
## Area of Circles

Area of a Circle:  $\pi r^2$

$r =$  radius

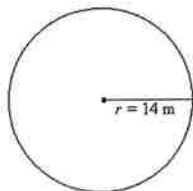
$x^2 = x \cdot x$  ( $4^2 = 4 \cdot 4 = 16$ )

Find the area of the circles below.



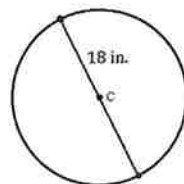
$R = 5 \text{ cm}$

Area =  $\pi(5^2)$   
 $\pi(25)$   
 $= 78.5 \text{ cm}^2$



$R = 14 \text{ m}$

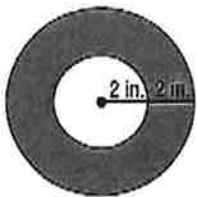
Area =  $615.4 \text{ m}^2$



$R = 9 \text{ in}$

Area =  ~~$200.96 \text{ in}^2$~~   
 $254.3 \text{ in}^2$

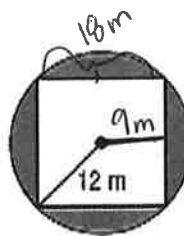
CHALLENGE: Find the area of the shaded region in the figures below.



Big circle:  $\pi r^2$   
 $\pi(4^2)$   
 $\pi(16)$   
 $= 50.2 \text{ in}^2$

Small circle =  $\pi r^2$   
 $\pi(2^2)$   
 $\pi(4)$   
 $= 12.6 \text{ in}^2$

$50.2$   
 $- 12.6$   
 $37.6 \text{ in}^2$



Circle:  $\pi r^2$   
 $\pi(9^2)$   
 $\pi(81) = 254.3 \text{ m}^2$

Square =  $18 \times 18$  ( $l \times w$ )  
 $= 324 \text{ m}^2$

$452.16$   
 $- 324.00$

$128.16 \text{ m}^2$