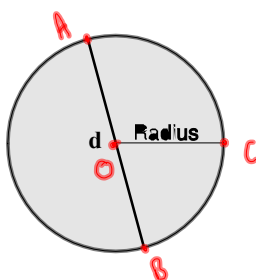


Sec. 8.4 Circumference & Area of Circles

**Circumference:** the distance around a circle

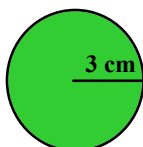
$$C = \pi d \quad \text{or} \quad C = 2\pi r$$

d = diameter  
r = radius  
 $\pi \approx 3.14$



Diameter  
AB  
Radii  
OA, OC, OB

Find the Circumference



$$r = 3$$

$$d = 6$$

$$C = 2\pi r$$

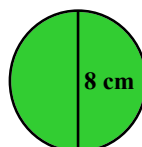
$$= 2\pi \cdot 3$$

$$C = 6\pi \text{ cm}$$

or

$$C = 6(3.14)$$

$$C = 18.84 \text{ cm}$$



$$d = 8 \text{ cm}$$

$$r = 4$$

$$C = \pi d$$

$$C = 8\pi \text{ cm}$$

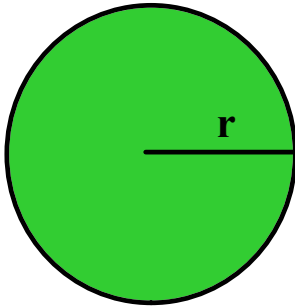
or

$$C = 8(3.14)$$

$$C = 25.12 \text{ cm}$$

Circumference = 75 cm

Find the radius of the circle

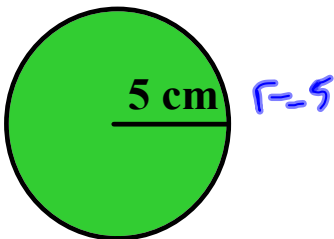


$$C = 2\pi r$$
$$\frac{75}{6.28} = \frac{75}{(2\pi)} = \frac{2\pi \cdot r}{2\pi}$$
$$11.9 \text{ cm} = r$$

$$75 \div 2\pi$$
$$75 \div 2 \cdot \pi$$

Area of a circle :  $A = \pi r^2$

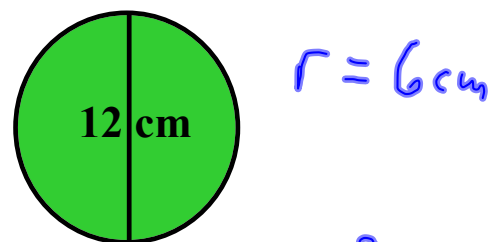
Find the Area of each circle



$$A = \pi r^2$$
$$= \pi \cdot 5^2$$
$$A = 25\pi \text{ cm}^2$$

or

$$A = 25(3.14) = 78.5 \text{ cm}^2$$

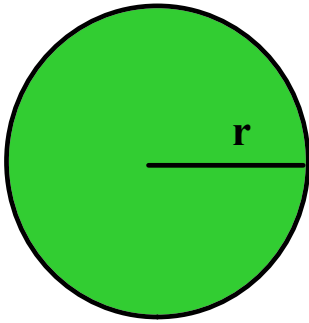


$$A = \pi r^2$$
$$= \pi \cdot 6^2$$
$$A = 36\pi \text{ cm}^2$$

$$A = 36(3.14) = 113.04 \text{ cm}^2$$

$$\text{Area} = 80 \text{ cm}^2$$

Find the radius of the circle



$$5^2 = 25$$
$$\sqrt{25} = 5$$

$$A = \pi \cdot r^2$$
$$\frac{80}{\pi} = \frac{\pi \cdot r^2}{\pi}$$
$$\sqrt{25.5} = \sqrt{r^2}$$
$$5.05 \text{ cm} = r$$

p.422, # 2-16 even, 20,  
26, 28, 34, 35

Write formulas & show work