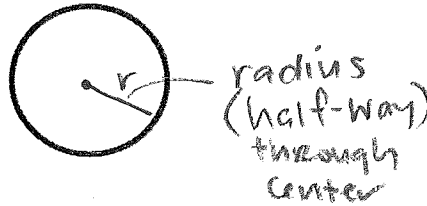
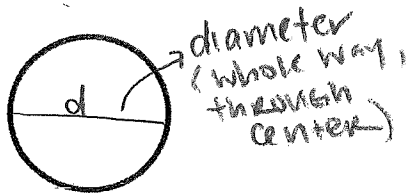




## LESSON - 2D MEASUREMENT REVIEW



### GUIDED PRACTICE: 2D MEASUREMENT - CIRCLES



$$d = 2r$$

or

$$r = \frac{d}{2}$$

**CIRCUMFERENCE** = Distance around circle. Unit = m, cm, in  $C = \pi d$

**AREA** = Space within circle. Unit = m<sup>2</sup>, cm<sup>2</sup>, sq in  $A = \pi r^2$



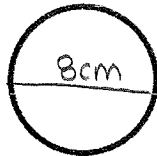
Example:

circumference

$$C = \pi d$$

$$C = \pi 8$$

$$C = 25.1 \text{ cm}$$



$d = 8; r = 4$

area

$$A = \pi r^2$$

$$A = \pi 4^2$$

$$A = \pi 16$$

$$A = 50.3 \text{ cm}^2$$



Example:

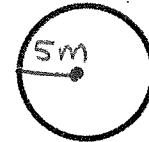
circumference

$$C = \pi d$$

$$C = \pi (2 \times 5)$$

$$C = \pi 10$$

$$C = 31.4 \text{ m}$$



area

$$A = \pi r^2$$

$$A = \pi 5^2$$

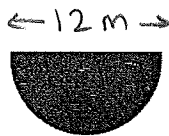
$$A = 78.5 \text{ m}^2$$

Circumference

$$C = \frac{\pi d}{2} + 12$$

$$C = \frac{\pi (12)}{2} + 12$$

$$C = 30.8 \text{ m}$$



area

$d = 12; r = 6$

$$A = \frac{\pi r^2}{2}$$

$$A = \frac{\pi (6)^2}{2}$$

$$A = \frac{\pi (36)}{2}$$

$$A = 56.5 \text{ m}^2$$

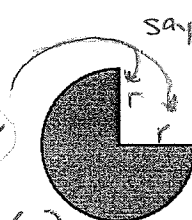
circumference

$$C = \frac{3}{4} \pi d + 2r$$

$$C = \frac{3}{4} \pi 6 + 2(3)$$

$$C = \frac{3}{4} 18.8 + 6$$

$$C = 20.1 \text{ m}$$



area

$$A = \frac{3}{4} (\pi r^2)$$

$$A = \frac{3}{4} (\pi 3^2)$$

$$A = 21.2 \text{ m}^2$$

### Manipulating the Formulas

What if given the circumference, and want to find  $d$  or  $r$ ?

$$C = \pi d \rightarrow \frac{C}{\pi} = \frac{\pi d}{\pi}$$

$$d = \frac{C}{\pi}$$

for  $r$ , then  $\div 2$

What if given the area, and want to find  $d$  or  $r$ ?

$$A = \pi r^2 \rightarrow \frac{A}{\pi} = \frac{\pi r^2}{\pi}$$

$$\frac{A}{\pi} = r^2 \rightarrow \sqrt{\frac{A}{\pi}} = r$$

$$r = \sqrt{\frac{A}{\pi}}$$