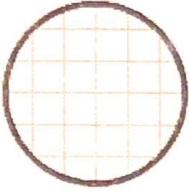



Area of a circle is the number of square units inside that circle.

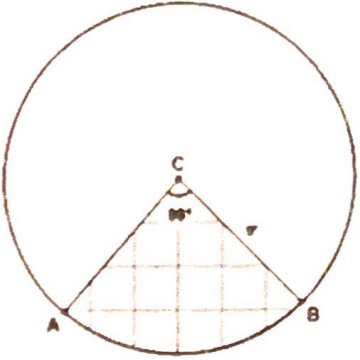
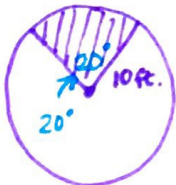

$$\text{Area of Circle} = \pi r^2$$

	Working Forwards	Working Backwards
	 Find the Area of the circle. $A = \pi \cdot 10^2$ $A = 100\pi \text{ cm}^2$	The circle has an area of 142 in^2 . What is the radius? $142 = \pi r^2$ $45.2 = r^2$ $6.7 \text{ in.} \approx r$

Sector area is the number of square units it takes to exactly fill a sector of a circle.

$$\text{Area of Sector} = \underbrace{\pi r^2}_{\text{Total Area}} \times \left(\frac{\theta}{360} \right) \leftarrow \text{portion}$$

$$AS = \frac{\pi r^2 \theta}{360}$$

	Working Forwards	Working Backwards
	 Find Area of shaded region! $AS = \frac{\pi r^2 \theta}{360}$ $AS = \frac{\pi \cdot 10^2 \cdot 20}{360}$ $= \frac{2000\pi}{360}$ $= \frac{50\pi}{9} \text{ ft}^2$	 Find the radius! $A = 50.5 \text{ ft}^2$ $AS = \frac{\pi r^2 \theta}{360}$ $50.5 = \frac{\pi \cdot r^2 \cdot 30}{360}$ $18180 = \pi \cdot r^2 \cdot 30$ $606 = \pi r^2$ $192.89 = r^2$ $13.9 \text{ ft} \approx r$