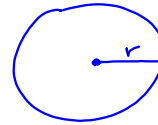


7.6 Areas and Sectors

We already looked at
Circumference and Arc length

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

$$\text{and } \frac{\text{Arc}}{C = \pi d} = \frac{\text{central } \angle}{360^\circ}$$



$$A = \pi r^2$$

$$\pi = \frac{A}{r^2} \quad \pi = \frac{C}{d}$$

$$r = 3 \text{ in} \quad A = \pi 3^2$$

$$A = 3.14 \cdot 9$$

$$A = 28.26 \text{ in}^2$$

If given area find radius

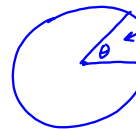
$$A = 56.52 \text{ cm}^2$$

$$\frac{3.14 \cdot r^2}{3.14} = \frac{56.52}{3.14}$$

$$\sqrt{r^2} = \sqrt{18}$$

$$r = 4.24 \text{ in}$$

Sectors



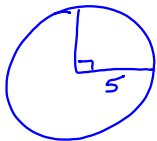
Area of the
slice

1. measure of the
central \angle

2. radius

$S =$ Area of sector

$$\frac{S}{\pi r^2} = \frac{\text{Central } \angle}{360}$$

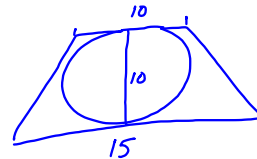


$$\frac{S}{\pi 5^2} = \frac{90}{360}$$

$$\frac{S}{25\pi} = \frac{1}{4}$$

$$S = \frac{1}{4} \cdot 25 \cdot (3.14)$$

$$S = 19.625$$



$$r = 5$$

$$A = \pi 5^2$$

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

Area of Trapezoid = 125 cm²

$$A = \frac{1}{2}(b_1 + b_2)h$$