

Lesson 8.3a Area of a Circle

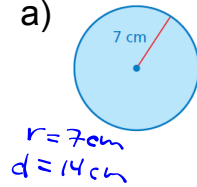
8.3a Area of Circles

Area of a circle = pi times r squared

$$A = \pi r^2$$

Ex. 1 Find area

a)



$$A = \pi r^2$$

$$A = 3.14(7\text{ cm})^2$$

$$A = 3.14(49\text{ cm}^2)$$

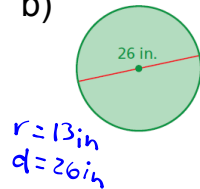
$$A = 153.86\text{ cm}^2$$

$$\text{or } A = \frac{22}{7}(7\text{ cm})^2$$

$$A = \frac{22}{7}(49\text{ cm}^2)$$

$$A = 154\text{ cm}^2$$

b)



$$A = \pi r^2$$

$$A = 3.14(13\text{ in})^2$$

$$A = 3.14(169\text{ in}^2)$$

$$A = 530.66\text{ in}^2$$

Ex. 2

a) Find the area of a circle with a diameter of 28 meters. Use $\frac{22}{7}$ for π .

$$r = 14\text{ m}$$

$$d = 28\text{ m}$$

$$A = \pi r^2$$

$$A = \frac{22}{7}(14\text{ m})^2$$

$$A = \frac{22}{7} \cdot 196\text{ m}^2$$

$$A = 616\text{ m}^2$$

b) Find the area of a circle with a radius of 6 feet. Use 3.14 for π .

$$r = 6\text{ ft}$$

$$d = 12\text{ ft}$$

$$A = \pi r^2$$

$$A = 3.14(6\text{ ft})^2$$

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

$$A = 113.04\text{ ft}^2$$

$$\begin{array}{r} 113.04 \\ 3.14 \\ \times 36 \\ \hline 1884 \\ 9420 \\ \hline 113.04 \end{array}$$