

Area of a Disc

Formula:

$$A = \pi r^2$$

Example: when given the radius:

What is the area of a disc with a radius of 4cm?

$$A = \pi r^2$$

$$A = \pi 4^2$$

$$A = 16\pi$$

$$A = 50.27 \text{ cm}^2$$

Example when given the diameter:

What is the area of a disc with a diameter of 10 cm?

① Find the radius

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

$$r = \frac{10}{2}$$

$$r = 5$$

② $A = \pi r^2$

$$A = \pi 5^2$$

$$A = 25\pi$$

$$A = 78.54 \text{ cm}^2$$

How to find the radius when given the area of a disc:

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

Example: Find the radius of a disc with an area of 113.04 cm^2 .

$$r = \sqrt{\frac{113.04}{\pi}}$$

$$r = 5.998 \text{ cm}$$

$$r \approx 6 \text{ cm}$$

* If you are asked to find the diameter:

$$d = 2r$$

$$d = 2(6)$$

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