

Let's find the diameter of a circle whose area is given as 40 cm^2 :

$$\text{Area} = 40$$

$$\pi r^2 = 40$$

$$3.14 r^2 = 40$$

$$r^2 = \frac{40}{3.14}$$

$$r^2 = 12.74$$

$$r = \sqrt{12.74}$$

$$r = 3.57 \text{ cm}$$

Now diameter $d = 2 \times \text{radius}$

$$d = 2 \times 3.57$$

$$d = 7.14 \text{ cm}$$