

Problem 77

What is the area of a circle 3.102 cm in diameter?

Solution

The area is

$$A = \pi r^2 = \pi \left(\frac{d}{2}\right)^2 = \pi \left(\frac{3.102 \text{ cm}}{2}\right)^2 \approx 7.557 \text{ cm}^2.$$

3.102 has four significant figures, so that's what the final answer is rounded to. This is the rule for multiplication.