

Area of a Circle

7th Grade

Square the radius, never the diameter.

**The area of a circle is pi times the radius squared.
The radius is squared, not the diameter.**

$$A = \pi r^2$$

$$r = 3$$

$$3.14 \times 9.$$

$$A \approx 28.3$$

$$d = 10, \text{ so } r = 5$$

Halve the diameter first.

$$A \approx 78.5$$

$$A = 50.24, \text{ find } r$$

$$50.24 \div 3.14 = 16, \text{ then square root.}$$

$$r = 4$$

Double the radius

Because the radius is squared.

area $\times 4$

THE COMMON MISTAKE

$\times A = \pi d^2$

$\checkmark A = \pi r^2$

Using the diameter gives four times the correct area.

Circumference uses r once, so units are cm. Area uses r twice, so units are cm^2 .