

Chapter 7 Circles II Area and Circular Composite Shapes

Tripwire Check

Name: _____ Grade: _____ Date: _____

What this tests: Whether the student distinguishes circumference from area and uses the radius in $A = \pi r^2$.

These questions test whether the thinking is solid — not just whether the procedure was memorized. Each wrong answer below points to a specific misconception, not just "try again."

1. A circular coaster has a diameter of 16 cm. A student writes $A = 3.14 \times 16^2 = 803.84 \text{ cm}^2$. Is the student correct? Explain how it can be determined without fully solving the problem first. Then find the correct area.

Wrap-Up

Circle area measures the space inside a circle, not the distance around it. The formula is $A = \pi r^2$, and it always uses the radius. If the diameter is given, divide by 2 before squaring.

A semicircle's area is a full circle's area divided by 2. A quarter circle's area is a full circle's area divided by 4. Composite shapes combine a circle's area with another shape's area, added when a circular part is present and subtracted when a circular part is missing.

Before calculating, always ask: am I finding around or inside? The next chapter moves from circles into triangles, applying many of the same habits.