



GRADE 7 · GEOMETRY · PRACTICE

AREA OF A CIRCLE

Today's goal: I can find the area of a circle to solve problems, including by using the formula for area of a circle and give an informal derivation of the relationship between the circumference and area of a circle.

**Pick your peppers!**

Everyone does Mild & Medium. Then climb as high as you can.

**Mild**

Tan the Turtle

**Medium**

Digit the Fox

**Spicy**

Blaze the Dragon

**Extra Spicy**

Pi the Owl



REMEMBER $A = \pi r^2$. Given a diameter, halve it first. Area is in **square** units; circumference is in plain units. Doubling the radius **quadruples** the area but only doubles the circumference.

**MILD****Tan the Turtle:** Slow and steady. Warm up!

- 1 Find the area of a circle with radius 7 cm.

Answer

- 2 Find the area of a circle with radius 2 cm.

Answer

- 3 Find the area of a circle with radius 4 cm.

Answer

**OOPS ALERT**

Careful on #1! Blaze spotted the slip Mr DJ sees most: Answered 14π , the circumference.

**MEDIUM**

Digit the Fox: Stretch your brain.

- 4 Find the area of a circle with diameter 14 cm.

Answer

- 5 Find the circumference of a circle with radius 2 cm.

Answer

**SPICY**

Blaze the Dragon: Bring the heat!

- 6 Why do questions 1 and 4 give the same answer?

Answer

- 7 How many times bigger is the area in question 3 than in question 2? Explain using the formula.

Answer

- 8 Your answers to questions 2 and 5 are both 4π . Does that mean area and circumference are the same? Explain.

Answer



EXTRA SPICY

Pi the Owl: Big-brain challenge.

- 9 Find the area of a circle with radius 3 cm and its circumference, and use them to show your answer to question 8.

Answer



How did this sheet feel?



Easy for me



Just right



Made me think

Stuck? Watch Mr DJ explain it

Step-by-step video lessons on YouTube: [youtube.com/@MathWithMrDJ](https://www.youtube.com/@MathWithMrDJ)

Brain break: daily puzzles

Three new math puzzles every day, free: puzzles.mathwithmrdj.com