

Circle Slice Math

Use parts of a circle to find angle measures.

GRADE 4 • TEKS 4.7.B

4.7.B "illustrate degrees as the units used to measure an angle, where $1/360$ of any circle is one degree and an angle that "cuts" $n/360$ out of any circle whose center is at the angle's vertex has a measure of n degrees..."

NAME _____

DATE _____

DEGREES IN A CIRCLE

A full circle has 360 equal degree parts. One part is $1/360$ of the circle, so it measures 1 degree. If an angle cuts n of these parts, its measure is n degrees.

WORKED EXAMPLE

An angle cuts $11/18$ of a full circle.
What is its measure in degrees?

1. A full circle measures 360 degrees.
2. Find $1/18$ of 360: $360 / 18 = 20$.
3. Multiply for 11 parts: $11 \times 20 = 220$.

Answer: 220 degrees

PRACTICE 6 problems

- 1** An angle cuts $1/8$ of a full circle. What is its measure in degrees?

ANSWER _____

- 2** An angle cuts $1/3$ of a full circle. What is its measure in degrees?

ANSWER _____

- 3** An angle cuts $7/10$ of a full circle. What is its measure in degrees?

ANSWER _____

- 4** An angle cuts $5/12$ of a full circle. What is its measure in degrees?

ANSWER _____

- 5** A 72-degree angle cuts what fraction of a full circle? Write the fraction in simplest form.

ANSWER _____

- 6** A 300-degree angle cuts what fraction of a full circle? Write the fraction in simplest form.

ANSWER _____

APPLY IT Show your work

- 1** In an art app, a color wheel is a full circle. A marker moves through $\frac{3}{8}$ of the wheel. How many degrees does the marker move?

WORK SPACE

ANSWER _____

- 2** At robotics club, a robot spins through $\frac{7}{9}$ of a full circle. How many degrees does the robot spin?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A badge design is split into 15 equal sections around a full circle. One colored wedge covers 4 sections. What is the angle measure of the colored wedge?

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	An angle cuts $\frac{1}{8}$ of a full circle. What is its measure in degrees?	45 degrees
2	An angle cuts $\frac{1}{3}$ of a full circle. What is its measure in degrees?	120 degrees
3	An angle cuts $\frac{7}{10}$ of a full circle. What is its measure in degrees?	252 degrees
4	An angle cuts $\frac{5}{12}$ of a full circle. What is its measure in degrees?	150 degrees
5	A 72-degree angle cuts what fraction of a full circle? Write the fraction in simplest form.	$\frac{1}{5}$ of a circle
6	A 300-degree angle cuts what fraction of a full circle? Write the fraction in simplest form.	$\frac{5}{6}$ of a circle

PART 2 • APPLY IT

- 135 degrees** Divide 360 by 8 to get 45 degrees for each eighth. Multiply 45 by 3 to get 135 degrees.
- 280 degrees** Divide 360 by 9 to get 40 degrees for each ninth. Multiply 40 by 7 to get 280 degrees.

CHALLENGE

96 degrees

Accept degree notation, such as 45° , in place of the word degrees. For fraction answers, accept equivalent fractions that represent the same part of a circle, although simplest form is requested.