LESSON MAKER PRO

Turn Around Math

Use parts of a circle to measure angles.

GRADE 4 · 4.MD.C.5a

CCSS.Math.Content.4.MD.C.5a "An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle..."

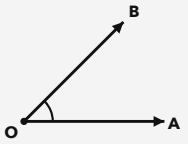
NAME _____ DATE _____

CIRCLE TURNS

A full circle has 360 one-degree angles. To find an angle measure, multiply the fraction of a circle by 360.

WORKED EXAMPLE

Look at angle AOB. It turns through 1/8 of a circle. How many one-degree angles does it have?

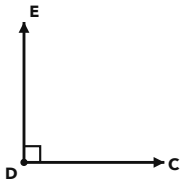


1. A full circle has 360 one-degree angles.
2. Divide 360 by 8.
3. 360 / 8 = 45.

Answer: 45°

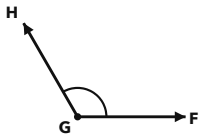
PRACTICE 4 problems

1 Look at angle CDE. It turns through 1/4 of a circle. How many one-degree angles does it have?



ANSWER _____

2 Look at angle FGH. It turns through 1/3 of a circle. How many one-degree angles does it have?



ANSWER _____

3 An angle turns through 1/2 of a circle. What is its measure?

ANSWER _____

4 An angle turns through 3/4 of a circle. What is its measure?

ANSWER _____

APPLY IT Show your work

1 In a dance game, Nia spins through 2/3 of a full circle. How many one-degree angles does she turn?

WORK SPACE

ANSWER _____

2 A video game spaceship turns through 5/6 of a full circle. What is the turn measure?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A robot makes a 210° turn. What fraction of a full circle is the turn? Show how you simplify.

WORK SPACE AND ANSWER

ANSWER KEY

Turn Around Math

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Look at angle CDE. It turns through 1/4 of a circle. How many one-degree angles does it have?	**90°**
2	Look at angle FGH. It turns through 1/3 of a circle. How many one-degree angles does it have?	**120°**
3	An angle turns through 1/2 of a circle. What is its measure?	**180°**
4	An angle turns through 3/4 of a circle. What is its measure?	**270°**

PART 2 · APPLY IT

1. **240°** Divide 360 by 3 to get 120. Multiply 120 by 2.
2. **300°** Divide 360 by 6 to get 60. Multiply 60 by 5.

CHALLENGE

7/12 of a circle; 210/360 = 7/12.

Accept angle measures written with or without the degree symbol. For the challenge, accept any correct simplification work that shows 210/360 equals 7/12.