

Turn and Measure

Count one-degree turns to find angle measure.

GRADE 4 • 4.MD.C.5b

CCSS.Math.Content.4.MD.C.5b "An angle that turns through n one-degree angles is said to have an angle measure of n degrees."

NAME _____

DATE _____

COUNT THE TINY TURNS

An angle measure tells how many one-degree angles fit in a turn. If an angle turns through n one-degree angles, its measure is n degrees. Write degrees using the symbol $^\circ$.

WORKED EXAMPLE

An angle turns through 47 one-degree angles. What is its measure?

1. The angle has 47 one-degree angles.
2. Each one-degree angle measures 1° .
3. 47 one-degree angles make 47° .

Answer: 47°

PRACTICE 6 problems

- 1** An angle turns through 36 one-degree angles. What is its measure?

ANSWER _____

- 2** An angle turns through 128 one-degree angles. What is its measure?

ANSWER _____

- 3** An angle measures 75° . How many one-degree angles does it turn through?

ANSWER _____

- 4** Mia says an angle that measures 64° turns through 46 one-degree angles. Is Mia correct? Write the correct number of one-degree angles.

ANSWER _____

- 5** An angle is made from a turn of 52 one-degree angles and then a turn of 29 one-degree angles. What is the angle measure?

ANSWER _____

- 6** Angle A turns through 105 one-degree angles. Angle B turns through 150 one-degree angles. Which angle is greater, and by how many degrees?

ANSWER _____

APPLY IT Show your work

- 1** A robot at a school showcase turns through 135 one-degree angle markers. What is the measure of the robot's turn?

WORK SPACE

ANSWER _____

- 2** In a drawing app, Kai turns an arrow 68° and then turns it 24° more in the same direction. How many one-degree angles does the arrow turn through altogether?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A video game steering wheel makes 3 equal turns. Together, the turns go through 174 one-degree angles. How many one-degree angles are in each turn? What is the measure of each turn? Explain your reasoning.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	An angle turns through 36 one-degree angles. What is its measure?	36°
2	An angle turns through 128 one-degree angles. What is its measure?	128°
3	An angle measures 75°. How many one-degree angles does it turn through?	75 one-degree angles
4	Mia says an angle that measures 64° turns through 46 one-degree angles. Is Mia correct? Write the correct number of one-degree angles.	No. It turns through 64 one-degree angles.
5	An angle is made from a turn of 52 one-degree angles and then a turn of 29 one-degree angles. What is the angle measure?	81°
6	Angle A turns through 105 one-degree angles. Angle B turns through 150 one-degree angles. Which angle is greater, and by how many degrees?	Angle B, by 45°

PART 2 • APPLY IT

- 135°** The robot turns through 135 one-degree angles. Its turn measures 135°.
- 92 one-degree angles** Add the two turns: $68 + 24 = 92$. A 92° turn goes through 92 one-degree angles.

CHALLENGE

Each turn has 58 one-degree angles and measures 58°. Since the 3 turns are equal, $174 \div 3 = 58$.

Accept “degrees” in place of the ° symbol. For the challenge, accept an explanation that shows 174 divided into 3 equal groups of 58.