One-Degree Angles

Explore ideas and representations

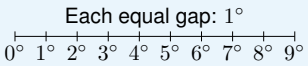
Name _____ **Date** _____ **Score** _____ / 6

QUICK REVIEW

One degree, written $1°$, is one of 360 equal small turns around a point. An angle of $7°$ contains 7 one-degree turns. Count gaps, not tick marks: ticks 0 through 7 make 7 gaps, not 8.

Worked example

An angle covers 9 one-degree turns. Find its measure and the count of gaps.

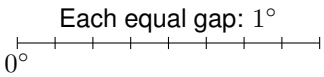


1. Each small turn measures $1°$.
2. $9 \times 1° = 9°$.
3. The marks 0 through 9 enclose 9 gaps.
Answer: 9 degrees.

Practice Problems

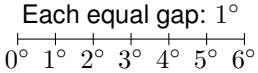
Show your thinking.

1. Count the gaps from the first tick to the last tick. How many degrees does this opening measure?



2. How many one-degree turns make a $46°$ angle?

3. Fix: Ticks 0 through 6 enclose 7 one-degree angles.



4. A wheel has already turned $347°$. How many more $1°$ steps complete exactly one full turn?

5. Explain why 12 one-degree turns are not the same as 12 ten-degree turns.

6. A robot turns $1°$ for each of 15 commands. Find its total turn.

Answer Key

1. 8 degrees.
2. 46.
3. 6 one-degree angles.
4. 13 steps.
5. $12°$ versus $120°$.
6. 15 degrees.

Step-by-Step Solutions

Follow each calculation, then check your own work.

Problem 1

1. The first and last ticks enclose 8 gaps.
2. Each gap is $1°$, so $8 \times 1 = 8°$.

Problem 2

1. The total measure is $46°$.
2. Each small turn is $1°$, so $46 \div 1 = 46$.
3. $46 \times 1° = 46°$ checks the count.

Problem 3

1. The tick labels are $0, 1, 2, 3, 4, 5, 6$: 7 marks.
2. The intervals are 0–1 through 5–6: 6 gaps.
3. $6 - 0 = 6$ degrees; angle measure counts gaps, not marks.

Problem 4

1. One full turn measures $360°$.
2. The gap left is $360 - 347 = 13°$.
3. At $1°$ per step, that is 13 steps. Check $347 + 13 = 360$.

Problem 5

1. Twelve one-degree units give $12 \times 1 = 12°$.
2. Twelve ten-degree units give $12 \times 10 = 120°$.
3. The second is 10 times the first; the unit size matters.

Problem 6

1. Each command changes direction by $1°$.
2. $15 \times 1 = 15°$.
3. $15 \div 1 = 15$ checks the number of commands.

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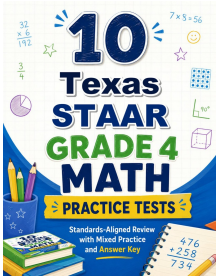

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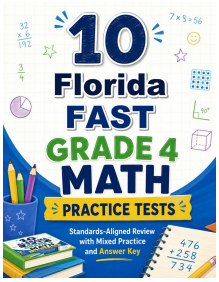

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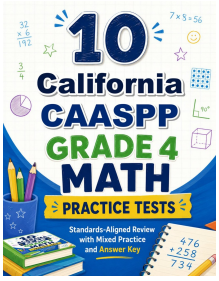

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