

Angle Detective

Use angle totals to find each missing measure.

GRADE 5 • 5.MG.3.h

5.MG.3.h "Solve addition and subtraction contextual problems to determine unknown angle measures on a diagram."

NAME _____

DATE _____

ANGLE TOTAL CLUES

Angles on a straight line add to 180 degrees. Angles around one point add to 360 degrees, and parts of a right angle add to 90 degrees. Add the known angles, then subtract that sum from the whole angle.

WORKED EXAMPLE

A straight angle is divided into 43 degrees and ____ degrees. Find the missing angle.

1. A straight angle totals 180 degrees.
2. Subtract the known angle: $180 - 43 = 137$.
3. The missing angle is 137 degrees.

Answer: 137 degrees

PRACTICE 6 problems

- 1** A straight angle diagram has two adjacent angles. One angle measures 68 degrees. Find the other angle: ____ degrees.

ANSWER _____

- 2** A right angle diagram is split into two angles. One angle measures 35 degrees. Find the missing angle: ____ degrees.

ANSWER _____

- 3** Three angles meet at one point. Two angles measure 120 degrees and 95 degrees. Find the third angle: ____ degrees.

ANSWER _____

- 4** A straight angle is split into three adjacent angles. Two angles measure 47 degrees and 76 degrees. Find the missing angle: ____ degrees.

ANSWER _____

- 5** Four angles meet at one point. Three angles measure 88 degrees, 102 degrees, and 74 degrees. Find the missing angle: ____ degrees.

ANSWER _____

- 6** A right angle is split into three angles. Two angles measure 28 degrees and 17 degrees. Find the missing angle: ____ degrees.

ANSWER _____

APPLY IT Show your work

- 1** Jordan is making a spinner for a board game. The spinner has four sections that meet at the center. Three section angles measure 110 degrees, 85 degrees, and 70 degrees. What is the angle measure of the fourth section?

WORK SPACE

ANSWER _____

- 2** A robot's path turns through a right-angle corner. The diagram shows that one part of the corner turn is 26 degrees. What is the measure of the other part of the corner turn?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Four angles meet at one point. Two angles measure 108 degrees and 72 degrees. The other two angles are equal. What is the measure of each equal angle?

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A straight angle diagram has two adjacent angles. One angle measures 68 degrees. Find the other angle: ____ degrees.	112 degrees
2	A right angle diagram is split into two angles. One angle measures 35 degrees. Find the missing angle: ____ degrees.	55 degrees
3	Three angles meet at one point. Two angles measure 120 degrees and 95 degrees. Find the third angle: ____ degrees.	145 degrees
4	A straight angle is split into three adjacent angles. Two angles measure 47 degrees and 76 degrees. Find the missing angle: ____ degrees.	57 degrees
5	Four angles meet at one point. Three angles measure 88 degrees, 102 degrees, and 74 degrees. Find the missing angle: ____ degrees.	96 degrees
6	A right angle is split into three angles. Two angles measure 28 degrees and 17 degrees. Find the missing angle: ____ degrees.	45 degrees

PART 2 • APPLY IT

- 95 degrees** Angles around the spinner's center total 360 degrees. Add $110 + 85 + 70 = 265$, then subtract 265 from 360.
- 64 degrees** A right angle totals 90 degrees. Subtract 26 from 90.

CHALLENGE**90 degrees each**

Accept answers written with the word degrees or a degree symbol. For the challenge, accept 90 degrees for each of the two equal angles.