LESSON MAKER PRO

Angle Puzzle Paths

Find missing angle measures by adding and subtracting parts.

GRADE 4 · 4.MD.C.7

CCSS.Math.Content.4.MD.C.7 "Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts..."

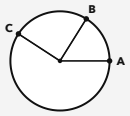
NAME _____ DATE _____

ANGLES ADD UP

When one angle is split into smaller angles that do not overlap, add the smaller measures to get the whole angle. If you know the whole and one part, subtract to find the missing part.

WORKED EXAMPLE

In the circle, ray OB splits angle AOC. m∠AOB = 58° and m∠AOC = 147°. Find m∠BOC.

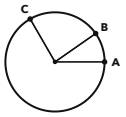


1. Write an addition equation: 58° + ___ = 147°.
2. Subtract: 147° - 58° = 89°.
3. The missing angle measure is 89°.

Answer: 89°

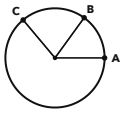
PRACTICE 6 problems

1 In the circle, ray OB splits angle AOC. m∠AOB = 35° and m∠AOC = 120°. Find m∠BOC.



ANSWER _____

2 In the circle, ray OB splits angle AOC. m∠AOB = 54° and m∠AOC = 130°. Find m∠BOC.



ANSWER _____

3 A 135° angle is split into two non-overlapping angles. One angle measures 67°. Find the other angle measure.

ANSWER _____

4 Two adjacent angles measure 42° and 39°. What is the measure of the whole angle made by both angles?

ANSWER _____

5 A 155° angle is split into two parts. One part measures 73°. Find the missing part.

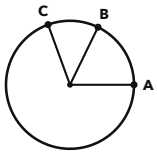
ANSWER _____

6 Three non-overlapping angles make a 121° angle. Two parts measure 28° and 46°. Find the third part.

ANSWER _____

APPLY IT Show your work

1 At a pizza shop, three cuts meet at the center O of a pizza. The cuts make rays OA, OB, and OC. m∠AOB = 64° and m∠AOC = 110°. What is m∠BOC?



ANSWER _____

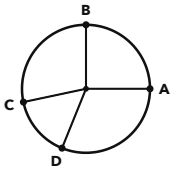
2 A robot arm turns through an angle of 154° to place a block. Its first turn is 86°. How many more degrees must the arm turn to finish the move?

WORK SPACE

ANSWER _____

CHALLENGE One step up

The four non-overlapping angles around point O make a full turn of 360°. m∠AOB = 90° and m∠BOC = 102°. m∠DOA is twice m∠COD. Find m∠COD and m∠DOA.



WORK SPACE AND ANSWER

ANSWER KEY

Angle Puzzle Paths

GRADE 4 · 4.MD.C.7

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	In the circle, ray OB splits angle AOC. m∠AOB = 35° and m∠AOC = 120°. Find m∠BOC.	**85°**
2	In the circle, ray OB splits angle AOC. m∠AOB = 54° and m∠AOC = 130°. Find m∠BOC.	**76°**
3	A 135° angle is split into two non-overlapping angles. One angle measures 67°. Find the other angle measure.	**68°**
4	Two adjacent angles measure 42° and 39°. What is the measure of the whole angle made by both angles?	**81°**
5	A 155° angle is split into two parts. One part measures 73°. Find the missing part.	**82°**
6	Three non-overlapping angles make a 121° angle. Two parts measure 28° and 46°. Find the third part.	**47°**

PART 2 · APPLY IT

1. **46°** Angle AOC is the whole angle. Subtract 64° from 110° to get 46°.
2. **68°** The two turns add to 154°. Subtract 86° from 154° to get 68°.

CHALLENGE

m∠COD = 56°; m∠DOA = 112°

Accept angle measures written with or without the degree symbol when the value is correct. For the challenge, accept correct work showing that the two missing angles total 168° and are split into one part and two equal parts.