

Angle Parts Puzzle

Add and subtract to find missing angle measures.

GRADE 4 • NY-4.MD.7

NY-4.MD.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 _____

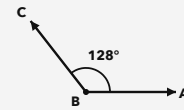
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ADD ANGLE PARTS

When smaller angles do not overlap, their measures add to make the whole angle. To find a missing part, subtract the known part or parts from the whole.

WORKED EXAMPLE

Ray BD splits the angle shown. One part measures 53° . Find the other part.



1. Whole angle = 128° .
2. Known part = 53° .
3. $128^\circ - 53^\circ = 75^\circ$.

Answer: 75°

PRACTICE 4 problems

- 1** A 97° angle is split into a 42° angle and one other angle. Find the other angle.

ANSWER _____

- 2** Three non-overlapping angles measure 28° , 36° , and 19° . Find the measure of the whole angle.

ANSWER _____

- 3** A straight angle measures 180° . One part measures 65° . Find the other part.

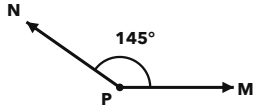
ANSWER _____

- 4** A 110° angle is split into angles of 41° , 27° , and one other angle. Find the missing angle.

ANSWER _____

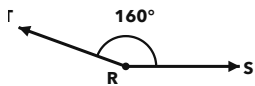
APPLY IT Show your work

- 1** At art club, Imani makes the angle shown with two cardboard panels. A fold divides it into a 68° angle and one other angle. What is the other angle?



ANSWER _____

- 2** A robot makes the turn shown. Its route splits the turn into 45° , 72° , and one more angle. Find the missing angle.



ANSWER _____

CHALLENGE One step up

A straight angle is split into four non-overlapping parts. Two parts measure 38° and 46° . The other two parts are equal. Find each equal part. Explain with an addition equation.

WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A 97° angle is split into a 42° angle and one other angle. Find the other angle.	55°
2	Three non-overlapping angles measure 28° , 36° , and 19° . Find the measure of the whole angle.	83°
3	A straight angle measures 180° . One part measures 65° . Find the other part.	115°
4	A 110° angle is split into angles of 41° , 27° , and one other angle. Find the missing angle.	42°

PART 2 • APPLY IT

1. **77°** Subtract the known part from the whole angle: $145^\circ - 68^\circ = 77^\circ$.
2. **43°** Add the known parts, $45^\circ + 72^\circ = 117^\circ$. Then subtract: $160^\circ - 117^\circ = 43^\circ$.

CHALLENGE

48° each; $38^\circ + 46^\circ + 48^\circ + 48^\circ = 180^\circ$.

Accept equivalent addition or subtraction equations. For the challenge, accept a clear explanation that the two equal parts total 96° and each is 48° .