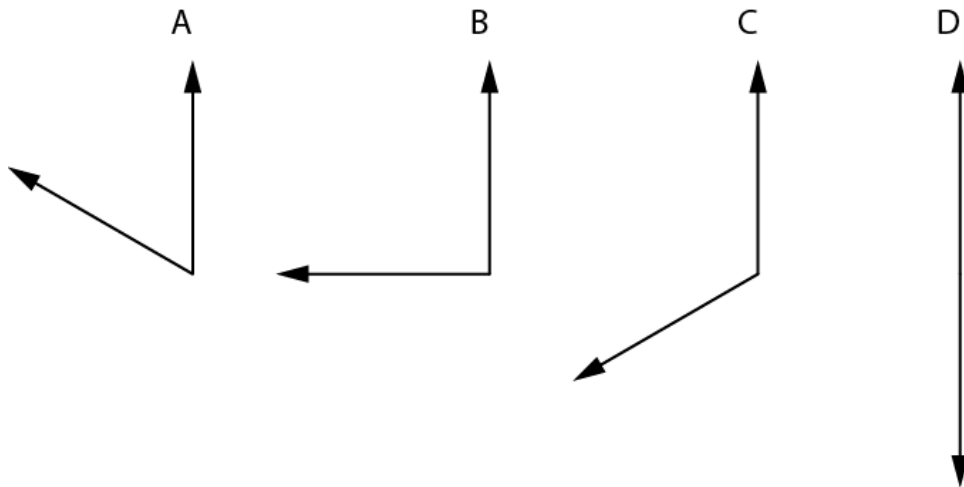


Grade 4: Angle Measure

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4.MD.C.5 - Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement.

Four angles are shown below. One angle measures 60 degrees. Which angle is it?



Answer:

Solution

Correct if student selects or writes angle A.

Potential Strategies

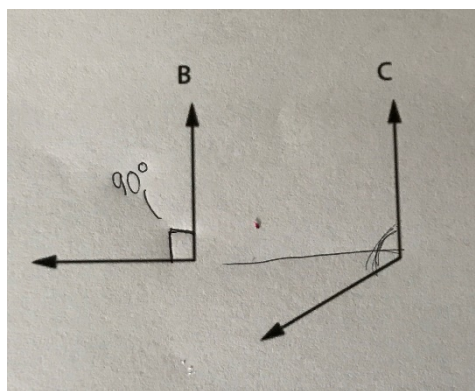
- Angle B looks like and is a right angle, and a right angle measures 90 degrees. So, angle B isn't the angle that measures 60 degrees. Angles C and D both have measures greater than 90 degrees, so neither angle

is the angle that measures 60 degrees. This leaves angle A as the only possible choice, and therefore the correct answer.

- If students have the printout of the task and a protractor to measure the angle, they will find that it indeed measures 60 degrees or thereabouts. However, if the student has a quantitative sense of angle measure, then they can apply that quantitative sense to answer the question without a protractor. Using a protractor makes this task more aligned to 4.MD.C.6

Potential Misconceptions

- If the student is having a hard time deciding about angle C, then you might encourage them to draw a line on angle C. This line could be used to conclude that angle C measures more than 90 degrees:



Elaboration on Alignment

This task is meant to be an easy problem about the concept of angle measure. One expects that most students will answer the problem correctly, but not necessarily answer it quickly.

The task doesn't raise questions about *what an angle, geometrically speaking, is*, because all four objects are objects that are angles. (For example, it doesn't ask about seeing angles that are components of triangles or squares, and doesn't ask about seeing angular shapes in everyday objects.) So, the task centers on angles as a measurable quantity. (That is, how do we see how "big" an angle is, and how do we assign a number to that "bigness"?) By showing a steadily increasing amount of "openness," the answer choices and their ordering were intended to accentuate the target of the task (and make the task easier by putting the correct answer at an extreme value in the progression of angle measures).

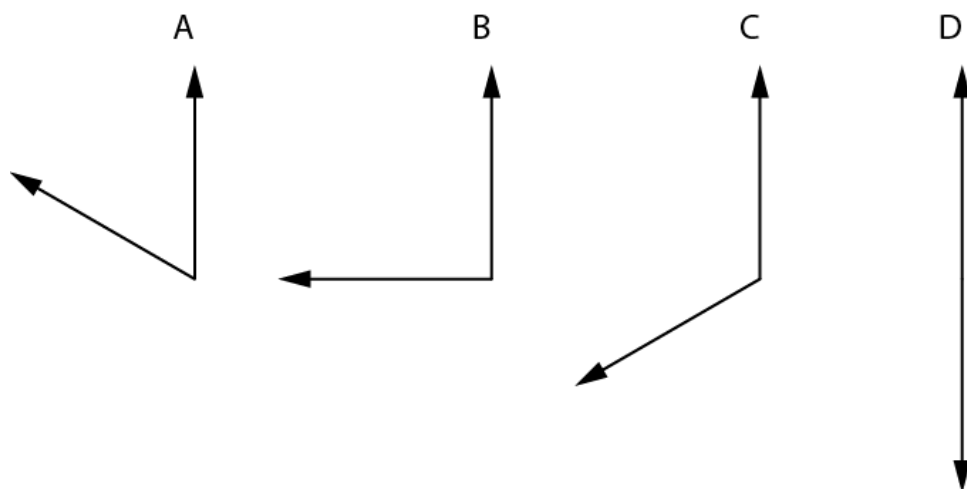
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Name: _____

Four angles are shown below. One angle measures 60 degrees.
Which angle is it?



Answer: