Topic: Associative Property

Question: Which of these equations best represents the Associative Property of Addition?

Answer choices:

A $(a+b)+c=a+(b+c)$

B $a+b+c=a+c+b$

C $a+b+c=b+a+c$

D $a(b+c)=ab+ac$

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Solution: A

Answer choice A is the Associative Property of Addition, $(a + b) + c = a + (b + c)$. Order doesn't matter when adding three or more numbers. The other answer choices are properties we'll learn about later in this section.

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Topic: Associative Property

Question: Which equation is true based on the Associative Property of Multiplication?

Answer choices:

A $(4 \cdot 3) \cdot 2 = 4 \cdot (3 \cdot 2)$

B $4 \cdot 3 \cdot 2 = 4 \cdot 2 \cdot 3$

C $4 \cdot 3 \cdot 2 = 3 \cdot 4 \cdot 2$

D $4(3 + 2) = (4)(3) + (4)(2)$

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Solution: A

Answer choice A illustrates the Associative Property of Multiplication, which tells us that, when we're doing multiplication, we can group terms together in any order we'd like, and the result remains the same.

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Topic: Associative Property

Question: Which equation shows the Associative Property of Addition?

Answer choices:

A $(x + y) + 2z = x + y + 2z$

B $x + (y + 2z) = (x + (y + 2z)$

C $x + y + 2z = (x + 2z + y)$

D $x + (y + 2z) = (x + y) + 2z$

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Solution: D

The Associative Property has to do with different ways of grouping terms.

Answer choice A shows no grouping on the right, so rule out A.

Answer choice B shows a parenthesis error on the right side: two left parentheses, but only one right parenthesis. Rule out B.

Answer choice C shows no grouping on the left. Also, y and $2z$ are in a different order on the right. Rule out C.

Answer choice D correctly shows grouping one pair of terms, $(y + 2z)$, on the left and a different pair of terms, $(x + y)$, on the right.

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