Math
Released Item 2019

Grade 3

Different Ways to Find Value
0190-M01039P

Anchor Set
A1 – A6

With Annotations

Prompt

Part A

Ms. Williams asked Carlos and Sara to show different ways to find the value of this expression:

$$4 \times 2 \times 3$$

Carlos decided to multiply 2×3 first. Which expression shows what Carlos should multiply next to find the correct value of $4 \times 2 \times 3$?

○ A. 4×2

○ B. 4×3

○ C. 4×5

○ D. 4×6

Part B

Sara explained the way she found the value of $4 \times 2 \times 3$ as follows:

- Multiply 4×2.
- Multiply 4×3.
- Add the two products.

Sara made a mistake. Describe Sara's mistake.

What is the correct value of $4 \times 2 \times 3$?

Enter your answer and your description in the space provided.

▾ Math symbols

| + | − | × | ÷ |

Part A is machine scored.

M01039 Rubric - Part A	
A	Chose a factor of the first step instead of the product.
B	Chose a factor of the first step instead of the product.
C	Chose the sum of 2 and 3 instead of the product.
D	Correct.

M01039 Rubric - Part B	
Score	**Description**

2	Student response includes the following 2 elements.
	
	• **Reasoning component** = 1 point
	
	    o Valid description of Sara's mistake
	
	• **Computation component** = 1 point
	
	    o Correct value for the expression, 24
	
	Sample Student Response:
	
	    Sara multiplied both the 2 and the 3 by 4. She should only have multiplied by one or the other, and then taken that value times the third number. The correct value for the expression is 24.
	
	Or other valid explanation.

1	Student response includes 1 of the 2 elements.
0	Student response is incorrect or irrelevant.

Part B

Sara explained the way she found the value of 4 × 2 × 3 as follows:

- Multiply 4 × 2.
- Multiply 4 × 3.
- Add the two products.

Sara made a mistake. Describe Sara's mistake.

What is the correct value of 4 × 2 × 3?

$$4 \times 2 = 8$$
$$4 \times 3 = 12$$
$$8 + 12 = 20$$

she multiplyed
four twice (24)

Annotation

Anchor Paper 1
Part B Score Point 2

The response receives full credit. The student includes each of the two required elements:

- A valid description of Sara's mistake is given (She multiplied four twice). The discussion using four twice versus once indicates an understanding of the error that was made.

- The correct value of the expression is found (24). Note that the prompt only asks for the correct value, so the work need not be shown.

Part B

Sara explained the way she found the value of 4 × 2 × 3 as follows:

- Multiply 4 × 2.
- Multiply 4 × 3.
- Add the two products.

Sara made a mistake. Describe Sara's mistake.

What is the correct value of 4 × 2 × 3?

Sara used 4 in both math problems instead of doing 4×2=8 and 8×3=24 or doing 4×3 and 12×2 or doing 2×3=6 and 6×4=24.

24

Annotation

Anchor Paper 2
Part B Score Point 2

The response receives full credit. The student includes each of the two required elements:

- A valid description of Sara's mistake is given (Sara used 4 in both math problems in stead of doing 4×2=8 and 8×3=24).

- The correct value of the expression is found (24).

Part B

Sara explained the way she found the value of 4 × 2 × 3 as follows:

• Multiply 4 × 2.
• Multiply 4 × 3.
• Add the two products.

Sara made a mistake. Describe Sara's mistake.

What is the correct value of 4 × 2 × 3?

Sara added the number you get when you Multiply 4 × 3 and 4 × 2.

Multiply 2 × 3 and multiply the number you get and 4 and ge the anser

Annotation

Anchor Paper 3
Part B Score Point 1

This response receives partial credit. The student includes one of the two required elements:

- A valid description of Sara's mistake is given (Sara added the numbers you get when you multiply 4×3 and 4×2. Multiply 2×3 and multiply the number you get and 4 and get the answer).

There is no attempt to find the correct value of the expression.

Part A

Ms. Williams asked Carlos and Sara to show different ways to find the value of this expression:

$$4 \times 2 \times 3$$

Carlos decided to multiply 2×3 first.

What must Carlos multiply next to find the correct value of the expression?

Drag and drop the correct numbers into the boxes.

| 2 | 3 | 8 | 12 |

6 × 4

Part B

Sara explained the way she found the value of $4 \times 2 \times 3$ as follows:

- Multiply 4×2.
- Multiply 4×3.
- Add the two products.

Sara made a mistake. Describe Sara's mistake.

What is the correct value of $4 \times 2 \times 3$?

24

Numbers

0	1	2	3
4	5	6	7
8	9	,	.

Arithmetic and Units

$\neq$ [·] \$ °

Annotation

Anchor Paper 4
Part B Score Point 1

This response receives partial credit. The student includes one of the two required elements:

- The correct value of the expression is found (24).

There is no attempt to explain Sara's mistake.

Part A

Ms. Williams asked Carlos and Sara to show different ways to find the value of this expression:

$$4 \times 2 \times 3$$

Carlos decided to multiply 2×3 first.

What must Carlos multiply next to find the correct value of the expression?

Drag and drop the correct numbers into the boxes.

| 2 | 3 | 8 | 12 |

$\boxed{6} \times \boxed{4}$

Part B

Sara explained the way she found the value of $4 \times 2 \times 3$ as follows:

- Multiply 4×2.
- Multiply 4×3.
- Add the two products.

Sara made a mistake. Describe Sara's mistake.

What is the correct value of $4 \times 2 \times 3$?

> $4 \times 2 \times 3 = 48$
> First, I did $4 \times 2 = 8$ and then I did $3 \times 2 = 6$.
> Next, I added 6×8 and got 48 so I knew my had to be 48. Then, I put it on my paper and looked over it to see if I got it the right answer. Last, I put it on my paper and looked over it to see if I pressed the wonrg number to my answer.

Annotation

Anchor Paper 5
Part B Score Point 0

This response receives no credit. The student includes neither of the two required elements:

There is no attempt to explain Sara's mistake.

The response finds an incorrect value for the expression (48).

Part B

Sara explained the way she found the value of 4 × 2 × 3 as follows:

- Multiply 4 × 2.
- Multiply 4 × 3.
- Add the two products.

Sara made a mistake. Describe Sara's mistake.

What is the correct value of 4 × 2 × 3?

4 X 2 X 3
8 + 6 = 14

Annotation
Anchor Paper 6 **Part B Score Point 0** This response receives no credit. The student includes neither of the two required elements: There is no attempt to explain Sara's mistake. The response finds an incorrect value for the expression (14).

Practice Set
P1 - P5

No Annotations Included

Part B

Sara explained the way she found the value of 4 × 2 × 3 as follows:

- Multiply 4 × 2.
- Multiply 4 × 3.
- Add the two products.

Sara made a mistake. Describe Sara's mistake.

What is the correct value of 4 × 2 × 3?

1. Sara's mistake was that she multiplied 4 twice.
2. Her answer was 20. The answer really was 24. This how she should have solved it: (4x2)x3, 4x2=8 and 8x3=24.

Part B

Sara explained the way she found the value of 4 × 2 × 3 as follows:

- Multiply 4 × 2.
- Multiply 4 × 3.
- Add the two products.

Sara made a mistake. Describe Sara's mistake.

What is the correct value of 4 × 2 × 3?

Sara mistake is she said add the two products also she multiplyed 4 × 3 insted of 8×3

Part A

Ms. Williams asked Carlos and Sara to show different ways to find the value of this expression:

$$4 \times 2 \times 3$$

Carlos decided to multiply 2×3 first.

What must Carlos multiply next to find the correct value of the expression?

Drag and drop the correct numbers into the boxes.

| 2 | 3 | 8 | 12 |

6×4

Part B

Sara explained the way she found the value of $4 \times 2 \times 3$ as follows:

- Multiply 4×2.
- Multiply 4×3.
- Add the two products.

Sara made a mistake. Describe Sara's mistake.

What is the correct value of $4 \times 2 \times 3$?

| ⟳ | ↺ | C | ⌫ | + | − | × | ÷ | ⊟ | ⊟ | = | < | > |
| (·) | ? |

Sara's *mistake* is that she already used 4 and she needs to put the product of 4×2 and multiply that by 3.

24

Numbers

0	1	2	3
4	5	6	7
8	9	,	.

Arithmetic and Units

| ≠ | [·] | $ | ° |

Part A

Ms. Williams asked Carlos and Sara to show different ways to find the value of this expression:

$$4 \times 2 \times 3$$

Carlos decided to multiply 2×3 first.

What must Carlos multiply next to find the correct value of the expression?

Drag and drop the correct numbers into the boxes.

| 2 | 3 | 8 | 12 |

6 × 4

Part B

Sara explained the way she found the value of $4 \times 2 \times 3$ as follows:

- Multiply 4×2.
- Multiply 4×3.
- Add the two products.

Sara made a mistake. Describe Sara's mistake.

What is the correct value of $4 \times 2 \times 3$?

She didn't multyply the 2 and 3.
It would look like $6 \times 4 = 24.$

Numbers

0	1	2	3
4	5	6	7
8	9	,	.

Arithmetic and Units

≠ [·] $ °

Part B

Sara explained the way she found the value of 4 × 2 × 3 as follows:

- Multiply 4 × 2.
- Multiply 4 × 3.
- Add the two products.

Sara made a mistake. Describe Sara's mistake.

What is the correct value of 4 × 2 × 3?

Because you half to multiple By
4X6 Because, first you needed
to multiply 8X2 witch ekwils
6 and The anser is 24

Practice Set

Paper	Score
P1	2
P2	1
P3	2
P4	1
P5	1