



# ***New York State Testing Program***

## **Mathematics Test**

Grade **6**

**2009 Scoring Guide**

**26**

Ms. Elma writes the expression below.

$$3 \times 3 \times 3 \times 3 \times 3 \times 3$$

She asks her sixth-grade students to rewrite the expression in exponential form. Marjorie writes the expression below.

$$6^3$$

On the lines below, explain why Marjorie's answer is incorrect.

Be sure to correctly rewrite Ms. Elma's expression in exponential form.

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**QUESTION 26**

**STRAND 1: NUMBER SENSE AND OPERATIONS**

*Complete and Correct Response:*

- Marjorie's expression shows 6 multiplied times itself 3 times. Ms. Elma's expression shows 3 multiplied times itself 6 times. Ms. Elma's expression equals  $3^6$  in exponential form.

OR other valid response

*Score Points:*

Apply 2-point holistic rubric.

26 Ms. Elma writes the expression below.

Handwritten student work showing calculations for  $3^6$ . It includes the number 243 with a checkmark, the expression  $3 \times 3 \times 3 \times 3 \times 3 \times 3$ , the calculation  $81 \times 3$ , and the final result 243.

~~$3 \times 3 \times 3 \times 3 \times 3 \times 3$~~

She asks her sixth-grade students to rewrite the expression in exponential form.

Marjorie writes the expression below.

$6^3$

~~36~~

36

On the lines below, explain why Marjorie's answer is incorrect.

Be sure to correctly rewrite Ms. Elma's expression in exponential form.

Marjorie's answer is not correct because the 6 is the exponent not the base. The correct answer is  $3^6$ .

This response is complete and correct.

Score Point 2

**26**

Ms. Elma writes the expression below.

$$3 \times 3 \times 3 \times 3 \times 3 \times 3$$

She asks her sixth-grade students to rewrite the expression in exponential form. Marjorie writes the expression below.

$$6^3$$

On the lines below, explain why Marjorie's answer is incorrect.

Be sure to correctly rewrite Ms. Elma's expression in exponential form.

Majorie's answer is incorrect because she wrote six to the third power and that looks like this  $6 \times 6 \times 6$  but the correct answer is 3 to the sixth power.

This response is only partially correct. Although the explanation 3 to the 6<sup>th</sup> power is correct, the response is not given in exponential form.

**Score Point 1**

**26**

Ms. Elma writes the expression below.

$$3 \times 3 \times 3 \times 3 \times 3 \times 3$$

She asks her sixth-grade students to rewrite the expression in exponential form. Marjorie writes the expression below.

$$6^3$$

On the lines below, explain why Marjorie's answer is incorrect.

Be sure to correctly rewrite Ms. Elma's expression in exponential form.

The answer is not correct  
because she put the  
exponents side ways.  
The correct answer  
would be  $3^6$ .

This response is only partially correct. Although the correct base and exponent are provided, the explanation is unclear.

**Score Point 1**

**26**

Ms. Elma writes the expression below.

$$3 \times 3 \times 3 \times 3 \times 3 \times 3$$

She asks her sixth-grade students to rewrite the expression in exponential form. Marjorie writes the expression below.

$$6^3 \quad | \quad 6 \times 6 \times 6$$

On the lines below, explain why Marjorie's answer is incorrect.

Be sure to correctly rewrite Ms. Elma's expression in exponential form.

Ms. Elma's Answer is correct because  
 $6^3$  you can do  $3^6$  and  $6^3$  it will be  
the same answer.

This response is incorrect.

**Score Point 0**

**26**

Ms. Elma writes the expression below.

$$3 \times 3 \times 3 \times 3 \times 3 \times 3$$

She asks her sixth-grade students to rewrite the expression in exponential form. Marjorie writes the expression below.

$$6^3$$

On the lines below, explain why Marjorie's answer is incorrect.

Be sure to correctly rewrite Ms. Elma's expression in exponential form.

~~Marjorie's answer is correct because~~  
she just switched them. She  
had 6 three's and the number  
is 3. But she did it in exponentia  
form  $6^3$ .

This response is incorrect.

**Score Point 0**



# ***New York State Testing Program***

## **Mathematics Test**

Grade **6**

**2009 Practice Set**

**26**

Ms. Elma writes the expression below.

$$3 \times 3 \times 3 \times 3 \times 3 \times 3$$

She asks her sixth-grade students to rewrite the expression in exponential form. Marjorie writes the expression below.

$$6^3$$

On the lines below, explain why Marjorie's answer is incorrect.

Be sure to correctly rewrite Ms. Elma's expression in exponential form.

He wasn't supposed to switch it around. There will be a big difference in the answer. Its supposed to be  $3^6$ .

**26**

Ms. Elma writes the expression below.

$$3 \times 3 \times 3 \times 3 \times 3 \times 3$$

She asks her sixth-grade students to rewrite the expression in exponential form.

Marjorie writes the expression below.

$$6^3$$

On the lines below, explain why Marjorie's answer is incorrect.

Be sure to correctly rewrite Ms. Elma's expression in exponential form.

Marjorie's answer is incorrect because  
6 to the 3 power means  $6 \times 6 \times 6$  the  
right answer would have been 3 to  
the  $6^{\text{th}}$  power

26

Ms. Elma writes the expression below.

$$3 \times 3 \times 3 \times 3 \times 3 \times 3$$

She asks her sixth-grade students to rewrite the expression in exponential form. Marjorie writes the expression below.

$$6^3$$

On the lines below, explain why Marjorie's answer is incorrect.

Be sure to correctly rewrite Ms. Elma's expression in exponential form.

Marjorie's answer is incorrect  
because it was suppose to be  
written as  $3^6$  so she's wrong.

26

Ms. Elma writes the expression below.

$$3 \times 3 \times 3 \times 3 \times 3 \times 3$$

She asks her sixth-grade students to rewrite the expression in exponential form. Marjorie writes the expression below.

$6^3$   
 $6 \times 6 \times 6$

On the lines below, explain why Marjorie's answer is incorrect.

Be sure to correctly rewrite Ms. Elma's expression in exponential form.

Because she write 3 time six.

You need to write 6 Threetime

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**26**

Ms. Elma writes the expression below.

$$3 \times 3 \times 3 \times 3 \times 3 \times 3$$

She asks her sixth-grade students to rewrite the expression in exponential form. Marjorie writes the expression below.

$$6^3$$

On the lines below, explain why Marjorie's answer is incorrect.

Be sure to correctly rewrite Ms. Elma's expression in exponential form.

Marjorie's answer is incorrect because  
because 3 is the main number. The  
power number is 7 because that is  
how many times you multiply. So the  
answer is  $3^7$ .

# 6<sup>th</sup> GRADE MATHEMATICS

Name: \_\_\_\_\_

## PRACTICE SET ANSWER KEY

PS 1	(0-2)	
PS 2	(0-2)	
PS 3	(0-2)	
PS 4	(0-2)	
PS 5	(0-2)	
PS 6	(0-2)	
PS 7	(0-2)	
PS 8	(0-2)	
PS 9	(0-2)	
PS 10	(0-2)	
PS 11	(0-2)	
PS 12	(0-2)	
PS 13	(0-2)	
PS 14	(0-2)	
PS 15	(0-2)	
PS 16	(0-2)	
PS 17	(0-2)	
PS 18	(0-2)	
PS 19	(0-2)	
PS 20	(0-2)	
PS 21	(0-2)	
PS 22	(0-2)	
PS 23	(0-2)	
PS 24	(0-2)	
PS 25	(0-2)	

PS 26	(0-2)	
PS 27	(0-2)	
PS 28	(0-2)	
PS 29	(0-2)	
PS 30	(0-2)	
PS 31	(0-3)	
PS 32	(0-3)	
PS 33	(0-3)	
PS 34	(0-3)	
PS 35	(0-3)	
PS 36	(0-3)	
PS 37	(0-3)	
PS 38	(0-3)	
PS 39	(0-3)	
PS 40	(0-3)	
PS 41	(0-3)	
PS 42	(0-3)	
PS 43	(0-3)	
PS 44	(0-3)	
PS 45	(0-3)	
PS 46	(0-3)	
PS 47	(0-3)	
PS 48	(0-3)	
PS 49	(0-3)	
PS 50	(0-3)	