THIRD SPACE LEARNING

Exponential Notation Worksheet

Algebra

Grades 6 to 8

Skill Questions

Name: .....

Date: .....

1 Write $3 \times 3 \times 3 \times 3$ using exponential notation

Answer

2 Evaluate 5^2

Answer

3 Express $10 \times 10 \times 10$ using exponential notation

Answer

4 Write 2^5 in expanded form.

Answer

5 Simplify the expression with $6^2 \times 6^3$

Answer

6 Express $8 \times 8 \times 8$ using exponential notation

Answer

7 Calculate $4^2 \times 3^2$

Answer

8 Rewrite 9^2 using multiplication

Answer

9 Simplify $(4a) \times (4a) \times (4a) \times (4a)$

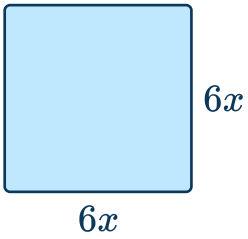
Answer

10 Simplify $7^4 \div 7^2$

Answer

Applied Questions

11 Express the area of the square in exponential notation.



Answer

12 Maddie and Kate were doing their math homework. Maddie expanded the expression $(9b)^4$ by writing it as $4 \times 9a$.
Kate expanded the expression $(9b)^4$ as $9b \times 9b \times 9b \times 9b$.
Who is correct, Maddie or Kate?

Answer

13 Rewrite the expression below in exponential form.
$5 \times 5 \times 5 \times 9 \times 9 \times a \times a \times a \times a \times a \times b \times b \times b \times b$

Answer

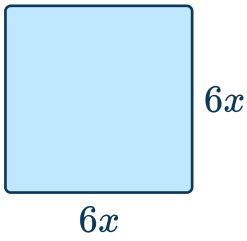
14 If the area of a square is represented by the expression, x^6, what is the expression that would represent the length of one side of the square?

Answer

15 Write the expression below in expanded form.
$(3a^2b^3)^3$

Answer

Answers

Question number	Question	Answers	Standard
1	Write $3 \times 3 \times 3 \times 3$ using exponential notation	3^4	8.EE.A.1
2	Evaluate 5^2	25	8.EE.A.1
3	Express $10 \times 10 \times 10$ using exponential notation	10^3	8.EE.A.1
4	Write 2^5 in expanded form.	2x2x2x2x2	8.EE.A.1
5	Simplify the expression with $6^2 \times 6^3$	6^5	8.EE.A.1
6	Express $8 \times 8 \times 8$ using exponential notation	8^3	8.EE.A.1
7	Calculate $4^2 \times 3^2$	144	8.EE.A.1
8	Rewrite 9^2 using multiplication	9 x 9 = 81	8.EE.A.1
9	Simplify $(4a) \times (4a) \times (4a) \times (4a)$	$(4a)^4$	8.EE.A.1
10	Simplify $7^4 \div 7^2$	7^2	8.EE.A.1
11	Express the area of the square in exponential notation.  	$Area = (6x) \times (6x)$ $Area = (6x)^2 \ OR \ 36x^2$	8.EE.A.1

Question number	Question	Answers	Standard
12	Maddie and Kate were doing their math homework. Maddie expanded the expression $(9b)^4$ by writing it as $4 \times 9a$. Kate expanded the expression $(9b)^4$ as $9b \times 9b \times 9b \times 9b$. Who is correct, Maddie or Kate?	Kate is correct because $(9b)^4$ means to multiply $9b$ to itself four times NOT multiply $9b$ by 4.	8.EE.A.1
13	Rewrite the expression below in exponential form. $5 \times 5 \times 5 \times 9 \times 9 \times a \times a \times a \times a \times a \times b \times b \times b \times b$	$5^3 \cdot 9^2 \cdot a^5 \cdot b^4$	8.EE.A.1
14	If the area of a square is represented by the expression, x^6, what is the expression that would represent the length of one side of the square?	x^3	8.EE.A.1
15	Write the expression below in expanded form. $(3a^2b^3)^3$	$3 \times 3 \times 3 \times a \times a \times a \times a \times a \times a \times b \times b \times b \times b \times b \times b$	8.EE.A.1

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