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Writing and Evaluating Expressions with Exponents

$3 = 3^1$
 $3 \times 3 = 3^2 = 9$
 $3 \times 3 \times 3 = 3^3 = 27$
 $3 \times 3 \times 3 \times 3 = 3^4 = 81$

Exponential Expression:
Base Exponent

- 1 Label the base as well as the exponent.
- 2 Show how to write the given situation as an exponential expression.
- 3 Express the following problem as a mathematical expression.
- 4 Explain how to transform the word problems.
- 5 Find the right exponential expression.
- 6 Determine the corresponding expression.
- + with lots of tips, answer keys, and detailed answer explanations for all of the problems.



The complete package, including all problems, hints, answers, and detailed answer explanations is available for all [sofatutor.com](https://www.sofatutor.com) subscribers.



Label the base as well as the exponent.

Fill in the blanks.

1 $3^2 = 9$

Here 1 is the base and 2 is the exponent.

2 $3^3 = 27$

Here 3 is the base and 4 is the exponent.

3 3^x

Here 5 is the base and 6 is the exponent.

4 5^3

Here 7 is the base and 8 is the exponent.



Hints for solving these problems

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of 6

Label the base as well as the exponent.

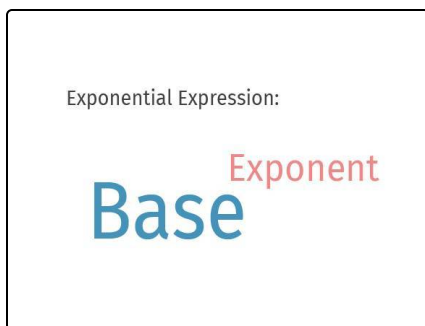
Hint #1

The exponent is the number of times you multiply the base by itself.

Hint #2

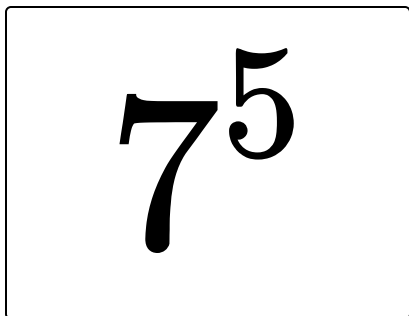
In general a power is given by a^n , where a stands is the base of the power.

Hint #3



Keep the meaning of the corresponding positions in mind.

Hint #4



In the example beside 7 is the base while 5 is the exponent.

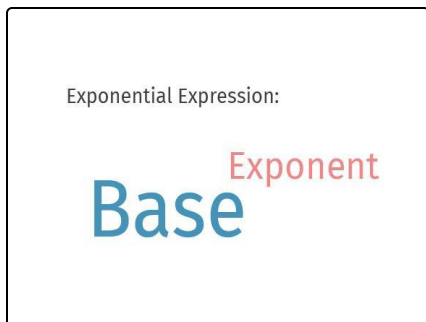


Answers and detailed answer explanations for these problems

1
of 6

Label the base as well as the exponent.

Answer key: 1: 3 // 2: 2 // 3: 3 // 4: 3 // 5: 3 // 6: x // 7: 5 // 8: 3



In general a power is given by a^n , where a is called the base and n is called the exponent.

You can read it as **a raised to the power of n** .