

Exponents

The exponent of a number says how many times to use the number in a multiplication. Exponents can also be called powers or indices. In words: 8 could be called "8 to the power 2" or "8 to the second power", or simply "8 squared."

Example: $5^3 = 5 \times 5 \times 5 = 125$

In words: 5^3 could be called "5 to the third power", "5 to the power 3" or simply "5 cubed"

For each problem below, first write out each exponent and then determine which number is greater and which number is lesser. Either put the greater than sign (>) or the less than sign (<) in the box provided.

1) 2^4 4^3

$$2 \times 2 \times 2 \times 2 = 16$$
$$4 \times 4 \times 4 = 64$$

5) 4^7 3^7

$$4 \times 4 \times 4 \times 4 \times 4 \times 4 \times 4 = 16,384$$
$$3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3 = 2,187$$

2) 3^3 1^5

$$3 \times 3 \times 3 = 27$$
$$1 \times 1 \times 1 \times 1 \times 1 = 1$$

6) 4^1 1^5

$$4 = 4$$
$$1 \times 1 \times 1 \times 1 \times 1 = 1$$

3) 3^3 4^3

$$3 \times 3 \times 3 = 27$$
$$4 \times 4 \times 4 = 64$$

7) 10^3 12^3

$$10 \times 10 \times 10 = 1,000$$
$$12 \times 12 \times 12 = 1,728$$

4) 4^1 2^7

$$4 = 4$$
$$2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 128$$

8) 3^2 2^2

$$3 \times 3 = 9$$
$$2 \times 2 = 4$$