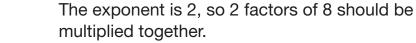# Exponents

You can use exponential notation to write a number that is being multiplied by itself.

There are two parts in exponential notation. The **base** tells you what factor is being multiplied. The **exponent** tells you how many of that factor should be multiplied together. The exponent is *not* a factor.

exponent
↓

$8^2 = 8 \times 8$ The base is 8, so 8 is the factor to be multiplied.
↑   The exponent is 2, so 2 factors of 8 should be
base   multiplied together.

You can write 8^2 in two other forms.

In **expanded** form, you write out your factors. Since 8^2 means you multiply two factors of 8, 8^2 in expanded form is 8×8.

In **standard** form, you write down the product of the factors. Since $8 \times 8 = 64$, 64 is the standard form of 8^2.

Write in exponential notation.

1. $2 \times 2 \times 2$ _____

2. $6 \times 6 \times 6 \times 6 \times 6$ _____

Write in expanded form.

3. 1^4 _____

4. 5^3 _____

Write in standard form.

5. $2 \times 2 \times 2 \times 2$ _____

6. 8^3 _____

7. A used car lot has 9 lanes for cars and 9 rows for cars in each lane. What is the exponential notation for the number of spaces on the lot? Can the owner fit 79 cars on the lot?

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