Lesson 4: Powers and Exponents

Goal:

- Demonstrate an understanding of power and exponent notation.
- Rewrite prime factors as sets of exponents.

Exponent notation is used to represent multiplications of identical factors.

For example: $3 \times 3 \times 3 \times 3 = 81$ This can also be represented as: $3^4 = 81$

This is read as the "base" 3 raised to the power or exponent of "4".

Example 1

3^4 is read as 3 to the power of 4.
5^2 is read as 5 to the power of 2 (or 5 squared).
7^3 is read as 7 to the power of 3 (or 7 cubed).

Fill in the chart below:

Standard multiplication	Exponential form	Write in words
$6 \times 6 \times 6 \times 6 \times 6$	6^5	6 to the power of 5
8×8	8^2	8 to the power of 2
$1 \times 1 \times 1 \times 1 \times 1 \times 1 \times 1 \times 1$	1^8	1 to the power of 8
$9 \times 9 \times 9$	9^3	9 to the power of 3

Fill in the chart below

Exponential form	Write in words	Standard multiplication	Evaluate
11^3	11 to the power of 3	$11 \times 11 \times 11$	1331
6^2	6 to the power of 2	$6 \times 6 \times 6$	216
9^4	9 to the power of 4	$9 \times 9 \times 9 \times 9$	6561