Review

Date: _____

Base: The number that is going to be raised to an exponent.

25^{10} x^4 $(6x)^3$

Base: _____ Base: _____ Base: _____

Exponent (aka Power or Index): An exponent is how many times you multiply the base by itself. Purpose: Saves you from writing out one number multiple times.

25^{10} x^4 $(6x)^3$

Exponent: _____ Exponent: _____ Exponent: _____

Numerical Form: The most simplified form of a number.

Exponential Form: A base raised to an exponent.

a^6 7^3 $(2x)^{10}$

Base: _____ Base: _____ Base: _____

Exponent: _____ Exponent: _____ Exponent: _____

Exponent Laws, Part 1:

Product Rule:

Simplify into exponential form.

1. $(x^4)(x^{10})$
   $(4x^5)$

2. $(4^5)(4^{26})$

3. $(6x^3)$

Quotient Rule:

Special Case: What if we had a/a?

Simplify to exponential form.

1. $(x^{24})/(x^{6})$
2. $(4^{12})/(4^{8})$
3. $(6a^{9})/(2a^{4})$

Application Problem:

The amount of data that an MP3 player can store is measured in gigabytes. For example, one MP3 player cna store 2 GB (gigabytes) of songs. One song uses about 7000 KB (kilobytes) of space, where 1 GB = 2^{20} KB. About how many songs can the MP3 player hold?