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8.4: Scientific Notation
"I WILL …
Read and Write numbers in Scientific Notation."

I. Scientific Notation

A. _____ the decimal point in the original number to the left or right so that the new number has a value between _____ and _____
B. _____ the number of decimals moved. If the number is 10 or greater, the count is positive. If the number is _____, the count is _____
C. Multiply the number by 10 raised to an exponent
D. Negative exponents are allowed in Scientific Notation

II. Operating Scientific Notation

A. Operate the whole number with the other whole numbers
B. Operate the exponents with the exponents
C. Must convert the whole numbers to proper scientific notation

III. Model Problems

Ex 1: Write in Standard Notation of 367,000,000	Ex 2: Write in Standard Notation of 42,590,000	Your Turn: Write in Standard Notation of 2,007,500
Ex 3: Write in Standard Notation of 0.000003	Ex 4: Write in Standard Notation of 0.00085	Your Turn: Write in Standard Notation of 0.0001685

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Ex 5: Write in Standard Notation of 1.02×10^{5}	Ex 6: Write in Standard Notation of 7.358×10^{-3}	Your Turn: Write in Standard Notation of 2.009×10^{-5}
Ex 7: Solve $(8.5 \times 10^{2})(1.7 \times 10^{6})$ into scientific notation form	Ex 8: Solve $(8.1 \times 10^{7})(4.9 \times 10^{-2})$ into scientific notation form	Your Turn: Solve $(9.7 \times 10^{4})(3.9 \times 10^{-9})$ into scientific notation form

Ex 9: Solve $(1.5 \times 10^{-3})^{2}$ into scientific notation form	Ex 10: In scientific notation form, solve $\frac{1.2\times10^{4}}{1.6\times10^{-3}}$
Ex 11: In scientific notation form, solve $\frac{2.4\times10^{5}}{2.5\times10^{-4}}$	Your Turn: In scientific notation form, solve $\frac{1\times10^{-2}}{5\times10^{-3}}$

Ex 12: The mass of Earth is close to 5.97×10^{24} kilograms, and the mass of Venus is close to 4.87×10^{24} kilograms. What is the combined mass of both planets?

Assignment: Worksheet