Operations with Scientific Notation

Multiplying and Dividing

When MULTIPLYING with Scientific Notation:

Step 1: Multiply the coefficients

Step 2: Keep the base 10

Step 3: Add the exponents (same as with exponent rules)

Example:

$$(6\times10^{5})(5\times10^{7}) = (6\times10^{5})(5\times10^{7})$$

$$= 30\times10^{12}$$

**This answer isn't in scientific notation because 30 isn't a number between 1 and 10, so convert it!*

$$30\times10^{12} = 3.0\times10^{13}$$

When DIVI

Step 1: Divide the coefficients

Step 2: Keep the base 10

Step 3: Subtract the exponents (same as with exponent rules)

Example:

$$\frac{(7\times10^{9})}{(4\times10^{3})} = (7\div4)\times(10^{9}\div10^{3})$$

$$= 1.75\times10^{(9-3)}$$

$$= 1.75\times10^{6}$$