# Study guide

# Scientific notation quiz

# I. Standard notation $\rightarrow$ scientific notation

FORMAT YOU MUST USE  $\rightarrow$  \_\_\_\_\_ x 10^  $\uparrow$  number must be between 1 and 10

\*Move decimal to the right of the first nonzero digit

\*Count the number of places you moved the decimal- this will be the exponent

\*If the original number is larger than  $1 \rightarrow$  the exponent is positive; otherwise the exponent is negative.

### Examples

 $37,600 = 3.76 \times 10^4$  (Remember, there is a decimal at the end of 37,600. Place the new decimal between the 3 and 7. Since the original number is larger than 1, the exponent is a positive 4 because the decimal moved 4 places.)

 $.0215 = 2.15 \times 10^{-2}$  (move decimal 2 places to the right. The exponent is negative because the original number is smaller than 1)

### II. Scientific notation $\rightarrow$ standard notation

\*If the power of 10 is POSITIVE, move the decimal to the RIGHT.

\*If the power of 10 is NEGATIVE, move the decimal to the LEFT.

\*The exponent tells you how many places to move the decimal.

#### Examples

 $1.21 \times 10^6 = 1,210,000$  (move decimal 6 places to the right)

 $5.32 \times 10^{-3} = .00532$  (move decimal 3 places to the left)