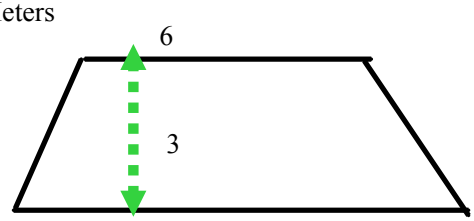
Units are in Meters



first a little refresher on Exponents

10^2 is 10 x 10 which is 100

10^3 is 10 x 10 x 10 which is 1000

10^4 is 10x10x10x10 which is 10,000

and so on.

Scientific_Notation__Using_Exponents_to_Represent_Large_Numbers.mov

Open attachments tab to locate video file

Let's put something together here.

2.1 X 100,000 = 210,000
I can simply move the decimal over 5 places since there are five 0's.

rewritten using scientific notation we can write the above number like

2.1×10^5

Rule: There must be one digit to the left of the decimal point to be in scientific notation.

Convert this to scientific notation.

340,000.

3.4×10^5

Convert this to standard form

1.2×10^{-8}

Scientific Notation WS

All of front side and evens on the back

Divide

$$\frac{11.2 \times 10^{5}}{1.2 \times 10^{4}}$$

$$\frac{4.2 \times 10^{6}}{2.1 \times 10^{2}}$$

$$\frac{10000000}{100}$$

$$2.0 \times 10^{4}$$

$$2.0 \times 10^{4}$$

$$\frac{9.0 \times 10^{8}}{4.5 \times 10^{3}} = 2.0 \times 10^{5}$$

$$\frac{4.75 \times 10^{10}}{2.21 \times 10^{5}} = 2.15 \times 10^{5}$$

14) $\frac{x}{100} = \frac{2.5 \times 10^5}{5 \times 10^5}$

$\frac{x}{100} = \frac{0.5}{1} = \frac{5}{10}$

14b) $\frac{x}{100} = \frac{1.5 \times 10^{-3}}{2.5 \times 10^{-2}}$ $-3 + 2 = -1$

$\frac{x}{100} = 0.6 \times 10^{-1}$

$\frac{x}{100} = \frac{0.06}{1}$

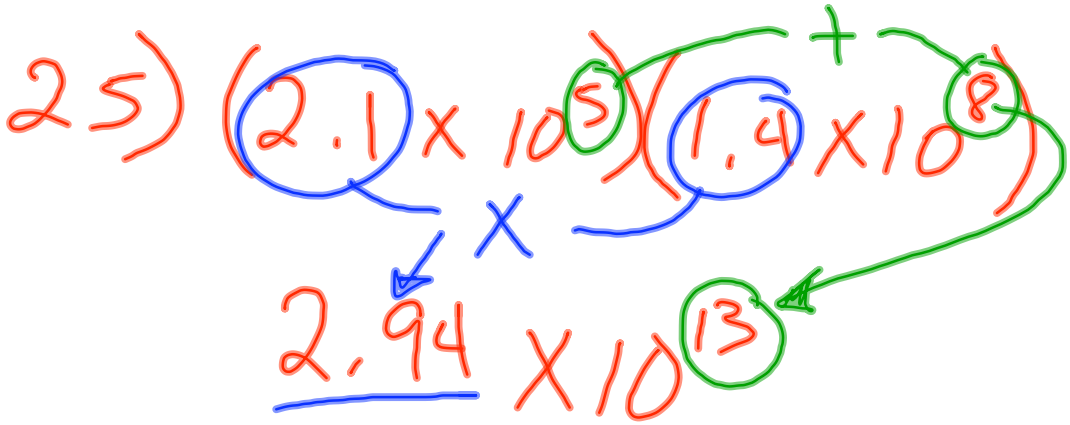
14 c) $\frac{x\%}{100} = \frac{10^5}{10^8}$

$5 - 8 = -3$

$\frac{x}{100} = \frac{10^{-3}}{1}$

$x = 10^{-1}$

$x = 0.1\%$


25) (2.1 x 10^5)(1.4 x 10^8)
+
x
2.94 x 10^13

16) 0.0810×10^4 convert to standard first

810 now convert to sci. not.

8.1×10^2

15) 4217.38

4.21738×10^3

17) 6721×10^9

6.721×10^{12}

Multiply

$(1.2 \times 10^{4})(2.5 \times 10^{5})$