Physics 11: Metric and Scientific Notation.

**1. Write the following in Scientific Notation**

 a. 250000m b. 0.0063s c. 975x104kg

 d. 14g e. 0.00000985x103km f. 122x10-7m

 g. 0.0098x10-4h h. 73300000000000J i. 0.000069x105N

**2. Complete the following metric conversions. (Show the appropriate conversion factors)**

 a. 395cm x $\left(\frac{ }{ }\right)$= \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_m

b. 2km x $\left(\frac{ }{ }\right)$ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_m

c. 66g x $\left(\frac{ }{ }\right)$ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ kg

d. 900mL x $\left(\frac{ }{ }\right)$ x $\left(\frac{ }{ }\right)$= \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ML

e. 400cm2 x $\left(\frac{ }{ }\right)$ x $\left(\frac{ }{ }\right)$ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ m2

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**2.** f. 1256ng x $\left(\frac{ }{ }\right)$ x $\left(\frac{ }{ }\right)$ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ hg

 g. 3.954x10-12cm x $\left(\frac{ }{ }\right)$ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ m

h. 7x108km x $\left(\frac{ }{ }\right)$ x $\left(\frac{ }{ }\right)$ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Mm

**3. Fill in the Blanks Below Using Scientific Notation**

There are \_\_\_\_\_\_\_\_\_\_\_\_\_ cm in one km and there are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ km in one cm.

There are \_\_\_\_\_\_\_\_\_\_\_\_\_ g in one ng and there are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ng in one g.

There are \_\_\_\_\_\_\_\_\_\_\_\_\_ MW in one hW and there are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ hW in one MW.

There are \_\_\_\_\_\_\_\_\_\_\_\_\_ cm3 in one m3 and there are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ m3 in one cm3.

**4. Solve the following. WITHOUT A CALCULATOR!**

a. (2x104m)(3x106m)/(4x105m) b. (2x103)(5x106)10-4x107x2x1011x5x10-15x10 x7

c. $ \frac{5×10^{-6}(6×10^{-3})}{3×10^{16}}$ d. $ \frac{2π×10^{-12}(9×10^{6})}{4π×10^{-15}}$

**2.** f. 1256ng x $\left(\frac{ }{ }\right)$ x $\left(\frac{ }{ }\right)$ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ hg

 g. 3.954x10-12cm x $\left(\frac{ }{ }\right)$ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ m

h. 7x108km x $\left(\frac{ }{ }\right)$ x $\left(\frac{ }{ }\right)$ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Mm

**3. Fill in the Blanks Below Using Scientific Notation**

There are \_\_\_\_\_\_\_\_\_\_\_\_\_ cm in one km and there are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ km in one cm.

There are \_\_\_\_\_\_\_\_\_\_\_\_\_ g in one ng and there are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ng in one g.

There are \_\_\_\_\_\_\_\_\_\_\_\_\_ MW in one hW and there are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ hW in one MW.

There are \_\_\_\_\_\_\_\_\_\_\_\_\_ cm3 in one m3 and there are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ m3 in one cm3.

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a. (2x104m)(3x106m)/(4x105m) b. (2x103)(5x106)10-4x107x2x1011x5x10-15x10 x7

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