Assignment 3: Scientific Notation

1. Write the following numbers in scientific notation:

a. 1024	g. 0.7 kV
b. 0.00748	h. -200 m/s
c. 10,000,000	i. -0.0000013 m
d. -15 J	j. -13,000,000,000 Farads
e. 32 N	k. 142,857 s
f. 1 Pa	m. -1

2. Write the following in standard notation:

a. 5.6×10^{3}

b. $3.25 \times 10^{-3}\,\mathrm{m}^{3}$

c. 1.0×10^{1}

d. $2.997 \times 10^{8}\,\frac{\mathrm{m}}{\mathrm{s}}$ (The speed of light in a vacuum)

e. -1.6×10^{-19} coulombs (The electric charge of one electron)

f. 1.0×10^{100} (This quantity is called a google)

3. Solve the following. Express your answer in scientific notation. You do not need calculators.

a. $\left(3.0\times 10^{8}\right)\times\left(2.0\times 10^{1}\right)=$

b. $\left(-4.0\times 10^{10}\right)\times\left(1.0\times 10^{-3}\right)^{5}=$

c. $\dfrac{6.0\times 10^{3}}{2.0\times 10^{20}}=$

d. $\dfrac{9.9\times 10^{5}}{-1.1\times 10^{-12}}=$

e. $\dfrac{\left(3.0\times 10^{12}\right)\cdot\left(4.0\times 10^{-3}\right)}{6.0\times 10^{4}}=$

f. $\dfrac{\left(8.0\times 10^{-4}\right)\cdot\left(-3.0\times 10^{6}\right)}{\left(-2.0\times 10^{7}\right)^{2}}=$

g. $\dfrac{\left(3.0\times 10^{16}\right)^{2}\cdot\left(2\times 10^{-12}\right)^{3}}{\left(6.0\times 10^{5}\right)^{2}}=$