

Geochemistry
 NDSU Geology 428 / 628
 Homework 1

Name _____

1. Convert the following to exponents of 10:

a. $4.47 \times 10^9 = \underline{\quad} 10^{9.65} \underline{\quad}$

b. $6.022 \times 10^{23} = \underline{\hspace{2cm}}$

c. $0.21 \text{ atm} = \underline{\hspace{2cm}}$

2. Convert the following to scientific notation notation:

a. $10^{4.4} = \underline{\hspace{2cm}}$ b. $10^{3.14159} = \underline{\hspace{2cm}}$

c. $10^{-10.4} = \underline{\hspace{2cm}}$ d. $10^{-1.6} = \underline{\hspace{2cm}}$

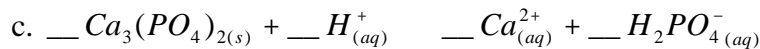
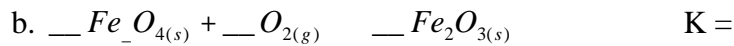
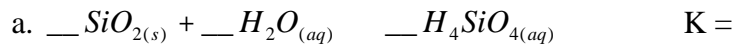
3. Provide the results of these operations in both exponents of 10 and scientific notation:

a. $(10^{-8.4} \times 10^{-6.4})^{\frac{1}{2}} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

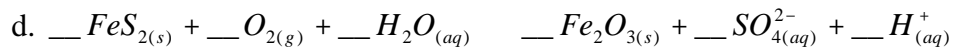
b. $\frac{10^{-1.2} \times 10^{-11.6}}{10^{-2.4}} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

c. $\frac{(4.67 \times 10^{-4})(1.6 \times 10^{-9})}{3.85 \times 10^{-12}} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

4. Balance the equations and write expressions for equilibrium constants:



K =



K =