Chemistry 141 Name

Martin Larter Quiz 1 (23 points) August 25, 2015

1. (3 points) What is wrong with the expression “That is just a theory,” if by theory the speaker is referring to a scientific theory? (Problem1.39 rephrased)
2. (3 points) Complete the following calculation (assume all values are measured quantities). Write the answer in proper scientific notation, rounded to the correct number of significant figures

$$\frac{\left(2.03214 × 10^{13}\right)\left(57.479-6.362\right)}{\left(0.94+2.503\right)^{3}\left(3.1378 ×10^{-4}\right)}=$$

1. (8 points) If the concentration of mercury in the water of a polluted lake is 0.33 micrograms per liter of water. What is the total mass of mercury in the lake, in kilograms, if the lake has a surface area of 10.0 km2 and average depth of 15 m? Assume lake is a rectangular object (problem 1.74) (1 dm3= 1L)
2. (4 points) Complete the following table

|  |  |
| --- | --- |
| Name | Formula |
| CuF2 |  |
| NI3 |  |
|  | Chlorous acid  |
|  | Magnesium bicarbonate hexahydrate  |

1. (5 points) Indicate whether each of the following properties is a physical or chemical property of sodium

|  |  |
| --- | --- |
| * 1. Its density is greater than that of kerosene and less than that of water.
 |  |
| * 1. It is soft and can be easily cut with a knife.
 |  |
| * 1. Freshly cut sodium is shiny, but it rapidly tarnishes in contact with air.
 |  |
| * 1. It reacts very vigorously with water to form hydrogen gas and sodium hydroxide.
 |  |
| * 1. It is an excellent conductor of heat and electricity.
 |  |