Quiz 1A

1. Identify each of the following activities in the scientific method as an observation (O), a hypothesis (H), an experiment (E), a law (L), or a theory (T) (2 points).
   1. The battery in my watch must be dead since it is no longer keeping time. \_\_H\_\_
   2. A pure substance has a definite, fixed composition. \_\_L\_\_
2. Solve the following problems, stating answers to the proper number of significant figures (6 points):
   1. 12.62 + 1.5 + 0.25 = 14.37 =14.4
   2. (0.394)(12.8) = 5.0432 = 5.04
   3. 10.4 + 3.75(1.5 x 104) = 10.4 + 5.6250 x 104 = 5.6 x 104
3. Are the zeros significant in these numbers (6 points)?
   1. 63,000,000 \_\_\_no\_\_\_
   2. 6.004 \_\_\_yes\_\_\_
   3. 0.00543 \_\_\_no\_\_\_
   4. 15.5570 \_\_yes\_\_\_\_
   5. 60. \_\_\_yes\_\_\_
   6. 2.0 x 104 \_\_\_yes\_\_\_
4. Hydrogen sulfide, the compound responsible for giving rotten eggs their characteristic odor, is composed of 1 atom of sulfur and 2 atoms of hydrogen (3 points).
   1. How many molecules of hydrogen sulfide can be made from 8 atoms of sulfur and 10 atoms of hydrogen?

5 molecules of hydrogen sulfide can be made.

* 1. Choose one: The number of hydrogen/sulfur atoms limits the number of molecules that can be made.

1. Fill in the blank (3 points):
   1. In science the \_\_\_\_\_gram\_\_\_\_\_\_ is used to measure mass.
   2. After adding the salt to the ice water you will stir for about \_\_\_\_1 minute\_\_\_\_\_.
   3. Everyone must be wearing \_\_\_\_safety glasses or goggles\_\_\_\_\_ whenever anyone is working with chemicals or flames.

Quiz 1B

1. Fill in the blank (3 points):
   1. The SI unit of temperature is \_\_\_\_Kelvin (K)\_\_\_\_\_\_\_\_.
   2. A balance should be \_\_\_\_\_zeroed or tared\_\_\_\_\_\_ before anything is place on the pan.
   3. If you spill chemicals on your skin you should rinse the area for at least \_\_\_\_15 minutes\_\_\_\_\_.
2. Identify each of the following activities in the scientific method as an observation (O), a hypothesis (H), an experiment (E), a law (L), or a theory (T) (2 points).
   1. My computer must have a virus since it is not working properly. \_\_H\_\_
   2. The candle burns more brightly in pure oxygen than in air because \_\_T\_\_

oxygen supports combustion.

1. Solve the following problems, stating answers to the proper number of significant figures (6 points):
   1. 15.2 – 2.75 + 15.67 = 28.12 = 28.1
   2. (4.68)(12.5) = 58.5
   3. 45.2 + 1.21(3.2 x 104) = 45.2 + 3.8720 x 104 = 3.9 x 104
2. Are the zeros significant in these numbers (6 points)?
3. 4.00 x 105 \_\_\_yes\_\_\_
4. 5,000,000 \_\_\_no\_\_\_
5. 11.550 \_\_\_yes\_\_\_
6. 10.088 \_\_\_yes\_\_\_
7. 80. \_\_\_yes\_\_\_
8. 0.0000334 \_\_\_no\_\_\_
9. Hydrogen sulfide, the compound responsible for giving rotten eggs their characteristic odor, is composed of 1 atom of sulfur and 2 atoms of hydrogen (3 points).
   1. How many molecules of hydrogen sulfide can be made from 5 atoms of sulfur and 12 atoms of hydrogen?

5 molecules of hydrogen sulfide can be made.

* 1. Choose one: The number of hydrogen/sulfur atoms limits the number of molecules that can be made.