

CH110A Professor K
EXAM 1

Professor K

name

This exam covers Chapters 1-5. Each question is worth 3 points, except for the ones marked, which are worth the value in parenthesis. Please show your work wherever possible so that partial credit can be given. Work alone. No materials are needed aside from the periodic table included at the end of the exam.

1.(4) Define and describe *concisely* the difference between precision and accuracy.

Precision is a measure of how close a set of measurements are to each other, whereas accuracy is a measure of how close one value is to the correct/theoretical value

2. On the line following the number, note how many significant figures are in the following:

7,100,123	<u>7</u>
3.4×10^{-78}	<u>2</u>
4000	<u>1</u>
300.00	<u>5</u>
0.000023457	<u>5</u>
234.00023	<u>8</u>

Only zeroes that serve only to place the decimal point are not significant

3. Define “chemical reaction”.

The formation and/or breaking of bonds

4. Why is the statement “ozone is good” scientifically inaccurate?

emotion does not equal science... (-1)

“good” for who? where is it “good”? (-2)

Stratospheric ozone protects life on Earth from UV radiation, but in the troposphere is a component of smog. It’s both “good” and “bad” for humans.

5. When 2.2968 g carbon is heated in the presence of 16.7970g hydrogen, 5.4884 g of a hydrocarbon results. How much hydrogen remains?

5.4884g hydrocarbon (composed of only C&H) – 2.2968g C in product = 3.1916 H in product
16.7970g H available – 3.1916g H in product = 13.6054g H remains