

CHM 1142

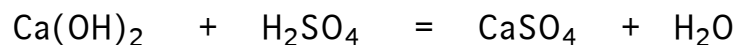
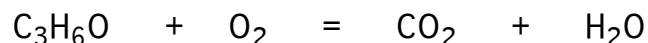
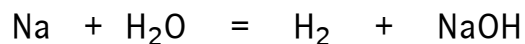
Homework Set 3

TUD Department of Chemistry

Fall 2017

Page 1 of 2

1) Balance the following equations:



2) Fill in name or formula as appropriate.

AgI_____

CrO₃_____

N₂O₄_____

sulfur hexafluoride_____

SiO₂_____

CCl₄_____

iron (II) sulfide_____

ferrous sulfate_____

Al₂O₃_____

strontium iodate_____

lithium carbonate_____

NaOCl_____

boron trichloride_____

CaCO₃_____

CHM 1142

Homework Set 3

TUD Department of Chemistry

Fall 2017

Page 2 of 2

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

1) The charge on the manganese in the salt MnF_3 is _____. 1) _____
A) +1 B) -1 C) +2 D) -2 E) +3

2) The correct name for HClO_2 is _____. 2) _____
A) perchloric acid
B) chloric acid
C) hypochlorous acid
D) hypochloric acid
E) chlorous acid

3) Which isotope has 45 neutrons? 3) _____
A) $^{80}_{36}\text{Kr}$ B) $^{80}_{35}\text{Br}$ C) $^{78}_{34}\text{Se}$ D) $^{34}_{17}\text{Cl}$ E) $^{103}_{45}\text{Rh}$

4) The element X has three naturally occurring isotopes. The masses (amu) and % abundances of the isotopes are given in the table below. The average atomic mass of the element is _____ amu. 4) _____

| Isotope | Abundance | Mass |
|------------------|-----------|-------|
| ^{221}X | 74.22 | 220.9 |
| ^{220}X | 12.78 | 220.0 |
| ^{218}X | 13.00 | 218.1 |

A) 219.7 B) 220.4 C) 220.42 D) 218.5 E) 221.0

5) Which formula/ name pair is incorrect? 5) _____
A) FeSO_4 iron(II) sulfate
B) $\text{Fe}_2(\text{SO}_3)_3$ iron(III) sulfite
C) FeS iron(II) sulfide
D) FeSO_3 iron(II) sulfite
E) $\text{Fe}_2(\text{SO}_4)_3$ iron(III) sulfide

6) What is the mass % of carbon in dimethylsulfoxide ($\text{C}_2\text{H}_6\text{SO}$)? 6) _____
A) 60.0 B) 20.6 C) 30.7 D) 7.74 E) 79.8