**CHE1031 Chemical Naming Worksheet Key**Identify each as either ionic, molecular, or acid compounds:

LiF ionic lithium fluorideCO2 molecular carbon dioxideHCl acid hydrochloric acidH(NO3) acid nitric acidSF4 molecular sulfur tetrafluorideCaBr2 ionic calcium bromideAlCl3 ionic aluminum chlorideCO molecular carbon monoxideCuO ionic copper (II) oxideFe2O3 ionic iron (III) oxideH3(PO4) acid phosphoric acidPCl3 molecular phosphorus trichlorideK2O ionic potassium oxidePb(SO3) ionic lead (II) sulfiteH2(SO4) acid sulfuric acidN2O4 molecular dinitrogen tetroxideBaCl2 ionic barium chlorideCrCl3 ionic chromium (III) chlorideBaS ionic barium sulfideP4O7 molecular tetraphosphorus heptoxideBeBr2 ionic berylium bromide ***21 problems***

Name these ionic compounds:

Li(NO3) lithium nitrateK(HSO4) potassium hydrogen sulfateCu(CO3) copper (II) carbonateFe(ClO4)3 iron (III) perchlorateMgF2 magnesium fluorideSnO2 tin (II) peroxideFe2S3 iron (III) sulfideZn(CN)2 zinc (II) cyanideSn3(PO4)2 tin (II) phosphateK(IO4) potassium periodateHg2S mercury (I) sulfideCu(CH3CO2)2 copper (II) acetateTi(SO4)2 titanium (IV) sulfateK(MnO4) potassium permanganateMgO magnesium oxideCsBr cesium bromideCuCl copper (I) chlorideMnO2 manganese (II) peroxidePbCl2 lead (II) chlorideCoBr2 cobalt (II) bromideAl2O3 aluminum oxideCaCl2 calcium chlorideNa2(SO3) sodium sulfite ***23 problems***Name these molecular compounds:

N2O5 dinitrogen pentoxidePCl5 phosphorous pentachlorideSF6 sulfur hexafluorideSO2 sulfur dioxidePCl3 phosphorous trichloride N2O dinitrogen monoxideNO nitrogen monoxideP4O10 tetraphosphorus decaoxideO2F2 dioxygen difluorideS4N4 tetrasulfur tetranitrideSiCl4 silicon tetrachlorideClO chlorine monoxideClF3 chlorine trifluorideSF2 sulfur difluorideOF6 oxygen hexafluorideSeBr4 selenium tetrabromideP2O5 diphosphorous pentoxideNCl3 nitrogen trichlorideP4S6 tetraphosphorous hexasulfide S2Cl2 disulfur dichlorideIF5 iodine pentafluorideXeO3 xenon trifluoride ***22 problems***Name these acids:

H(ClO) hypochlorous acidH3(PO4) phosphoric acid H(NO3) nitric acidHCl hydrochloric acidH2(SO3) sulfurous acidHI hydroiodidic acidH(ClO3) chloric acidH(IO3) iodic acidH(BrO2) bromous acidH(CrO4) chromic acid HBr hydrobromic acidH(NO2) nitrous acidH(ClO4) perchloric acidH(C2H3O2) acetic acidH2S hydrosulfuric acidHF hydrofluoric acidH(ClO2) chlorous acid ***17 problems***

Name these bases:

NaOH sodium hydroxideCa(OH)2 calcium hydroxideCsOH cesium hydroxide Al(OH)3 aluminum hydroxideNH3 ammoniaBa(OH)2 barium hydroxideKOH potassium hydroxide ***8 problems***

Write formulas for these mixed compounds:

calcium hydrogen sulfate Ca(HSO4)2 beryllium phosphate Be3(PO4)2nitrous acid H(NO2) sulfuric acid H2(SO4)potassium chloride KCl potassium hydrogen sulfide KHSphosphorus pentachloride PCl5 calcium iodide CaI2acetic acid H(C2H3O2) sulfur hexafluoride SF6iron (II) cyanide Fe(CN)2 bromous acid H(BrO2)sulfur trioxide SO3 silicon tetrachloride SiCl4aluminum hydride AlH3 lithium nitride Li3Nphosphoric acid H3(PO4) ammonium acetate NH4(C2H3O2)chromium (III) sulfate Cr2(SO4)3 copper (II) nitrate Cu(NO3)2hydrosulfuric acid H2S diphosphorus pentoxide P2O5dinitrogen tetroxide N2O4 chlorine monoxide ClOtin (II) bromide SnBr2 sodium oxide Na2Olead (IV) sulfide PbS2 sodium sulfite Na2(SO3)

potassium chlorate K(ClO3) ruthenium (III) nitrate Ru(NO3)3

nitrogen difluoride NF2 potassium bromate K2(BrO3)

hydroiodic acid HI beryllium oxide BeOnitrogen trichloride NCl3 selenium tetrabromide SeBr4ammonium carbonate (NH4)2(CO3) zinc (II) sulfide ZnScesium perchlorate Cs(ClO4) calcium hydroxide Ca(OH)2silicon dioxide SiO2 sodium selenate Na(SeO4) ammonium hydrogen phosphate (NH4)2(HPO3) lithium hydroxide LiOH ***44 problems***

**Point Values**With bases there 134 problems 100/134 = 0.75 points each 20/134 = 0.15 points each