Polytechnic Tutoring Center

Midterm I REVIEW ANSWER KEY – CM 1013, Fall 2021

Disclaimer: This mock exam is only for practice. It was made by tutors in the Polytechnic Tutoring Center and is not representative of the actual exam given by the Academic Department.

1. B, solve for the ratio of water mass to sulfuric acid mass
2. C, write out a balanced equation, convert to moles of O2, then to grams of O2
3. A, divide mass of total iron by mass of total molecule
4. B divide weight of U by K
5. A, alkali metal is group 1, halogen is group 7, transition in D block
6. C, definition of ionic compound
7. A, subtract atomic number from 40
8. B, definition of a mole
9. B, balance Cl before O
10. C, cobalt III has a positive 3 charge
11. A, NO_3 has -1 charge
12. D, assume 100g and multiple each mass by it's percent abundance
13. D, convert to moles and multiply by avogadro's number
14. E, melting point is a physical property
15. C, mass is extensive

PART II

1. CH2 and C4H8, Assume 100g, multiple mass by percent composition, convert to moles, divide into whole numbers to get empirical formula, divide by molecular mass for molecular formula.
2. (533g)Fe / (681.81g)Fe = 78%, Convert to moles of Fe_3O_4 to moles of Fe, the nto expected grams. Divide the experimental value by the accepted.
3. 2.81 x 10^20. Convert to moles of K_2MnF_6 then to moles of K, then multiply avogadro's number