Name:

MC Practice #4

- 1. Which nuclide is listed with its half-life and decay mode?
 - (A) K-37, 1.24 h, α

(C) Rn-222, 1.6 x 10³y,
$$\alpha$$
 (D) U-235, 7.1 x 10⁸ y, β -

2. The table below shows the number of subatomic particles in atom X and in atom Z

(B) N-16, 7.2 s, β -

Subatomic Particles in Two Atoms

Atom	Number of Protons	Number of Neutrons	Number of Electrons
X	6	6	6
Z	6	7	6

Atom X and atom Z are isotopes of the element

- (A) aluminum (B) carbon
- (C) magnesium (D) nitrogen
- 3. The greatest composition by mass in an atom of $^{17}\!\mathrm{sO}$ is due to the total mass of its
- (A) electrons (B) neutrons (C) positrons (D) protons
- 4. The bond between which two atoms is most polar?
 - (A) Br and Cl (B) Br and F
 - (C) I and Cl (D) I and F
- 5. In the formula $X_2(SO_4)_3$, the X represents a metal. This metal could be located on the Periodic Table in
 - (A) Group1 (B) Group 2 (C) Group 13 (D) Group 14

- 6. At STP, which element is solid, brittle, and a poor conductor of electricity?
- (A) Al (B) K (C) Ne (D) S 7. Given the balanced equation representing a reaction:

$$2NaCl(\ell) \rightarrow 2Na(\ell) + Cb(g)$$

A 1170.-gram sample of NaCI(ℓ) completely reacts, producing 460. grams of Na(ℓ). What is the total mass of Cl₂(g) produced?

(A) 355 g (B) 710. g (C) 1420. g (D) 1630. g 8. Given the formula representing a hydrocarbon:



The molecular formula and the empirical formula for this hydrocarbon are

(A) C5H10 and CH2	(B) C ₅ H ₁₀ and CH ₃
(C) C4H8 and CH2	(D) C4H8 and CH3

9. Which element forms an ionic compound when it reacts with lithium?

(A) K (B) Fe (C) Kr (D) Br 10. Given the formula representing a molecule:

$$H-C\equiv C-H$$

The molecule is

(A) symmetrical and polar(B) symmetrical and nonpolar(C) asymmetrical and polar(D) asymmetrical and nonpolar