**Unit C0 Quiz – Up Through Atomic Numbers**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Period: \_\_\_\_\_\_\_\_ Seat #: \_\_\_\_\_\_\_\_\_**

**Directions:** *Pick the best answer possible. You MUST show work in the boxes to earn credit if any math is involved. No work, no credit. You MUST bubble your final answer on your bubble sheet. No points will be given without a bubbled answer. All electronics must be stored in the calculator holder, and you must use Mrs. Farmer's class calculator.*

|  |  |  |
| --- | --- | --- |
| 1. | Which one of the following statements about atomic structure is false? | |
| A) | Almost all of the mass of the atom is concentrated in the nucleus. |
| B) | The number of protons and neutrons is always the same in the neutral atom. |
| C) | An atom is mostly empty space. |
| D) | The protons and neutrons in the nucleus are very densely packed. |

|  |  |  |
| --- | --- | --- |
| 2. | The first scientist to show that atoms emit negatively charged particles called electrons was | |
| A) | Ernest Rutherford. |
| B) | John Dalton. |
| C) | J. J. Thomson. |
| D) | Aristotle |

|  |  |  |
| --- | --- | --- |
| 3. | The number of protons in is | |
| A) | 120 |
| B) | dependent on ionic charge |
| C) | 80 |
| D) | 200 |

|  |  |  |
| --- | --- | --- |
| 4. | **SHOW WORK -** How many neutrons are there in one atom of | |
| A) | 47 |
| B) | 22 |
| C) | 69 |
| D) | 25 |

|  |  |  |
| --- | --- | --- |
| 5. | An atom with 15 protons and 16 neutrons is an atom of | |
| A) | S |
| B) | P |
| C) | Pd |
| D) | Ga |

|  |  |  |
| --- | --- | --- |
| 6. | The mass number of an atom equals | |
| A) | the number of protons plus the number of neutrons per atom |
| B) | the atomic number of the element |
| C) | the number of neutrons per atom |
| D) | the atomic mass of the element |

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| D) | the atomic mass of the element |

|  |  |  |
| --- | --- | --- |
| 7. | The scientist whose alpha-particle scattering experiment led him to conclude that the nucleus of an atom contains a dense center of positive charge is | |
| A) | Aristotle |
| B) | John Dalton. |
| C) | Ernest Rutherford. |
| D) | J. J. Thomson. |

|  |  |  |
| --- | --- | --- |
| 8. | **SHOW WORK -** The atom with 67 neutrons and 50 protons has a mass number of | |
| A) | 17 |
| B) | 67 |
| C) | 117 |
| D) | 50 |

|  |  |  |
| --- | --- | --- |
| 9. | **SHOW WORK -** has | |
| A) | 20 protons, 20 neutrons, and 22 electrons. |
| B) | 20 protons, 22 neutrons, and 18 electrons. |
| C) | 20 protons, 20 neutrons, and 18 electrons. |
| D) | 22 protons, 20 neutrons, and 20 electrons. |

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| 10. | An ion is formed | |
| A) | by either adding or subtracting electrons from the atom |
| B) | by either adding or subtracting neutrons from the atom. |
| C) | you cannot make ions by changing any particle in an atom |
| D) | by either adding or subtracting protons from the atom. |

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| 11. | **SHOW WORK -** How many electrons are present in a bromine atom with a mass number of 88? | |
| A) | 53 |
| B) | 123 |
| C) | 35 |
| D) | 88 |

|  |  |  |
| --- | --- | --- |
| 12. | Which of these are isotopes of hydrogen? | |
| A) | 42K and 40K |
| B) | 12C and 13C |
| C) | 3H and 2H |
| D) | 2H and He |

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**Answer Key**

|  |  |
| --- | --- |
| 1. | B |
| 2. | C |
| 3. | C |
| 4. | D |
| 5. | B |
| 6. | A |
| 7. | C |
| 8. | C |
| 9. | C |
| 10. | A |
| 11. | C |
| 12. | C |