**Half Life Quiz NAME: PERIOD: SEAT #:**

**Directions:** - Show work when told to. No work, no credit. - Only answers bubbled on the bubble sheet will receive credit.

|  |  |  |
| --- | --- | --- |
| 1. | **SHOW WORK -** The half life of a radioactive sample is 4.5 years. If you started with 55.5 grams, how many grams will still be radioactive after 20.74 years? | |
| A) | 127.896667 |
| B) | 2.274465 |
| C) | 47.750497 |
| D) | 1354.274763 |

|  |  |  |
| --- | --- | --- |
| 2. | **SHOW WORK -** A radioactive element has a half-life of 6.83 days. What percent of the original sample is left after 15.0 days? | |
| A) | 43.6% |
| B) | 46.7% |
| C) | 21.8% |
| D) | 10.9% |

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| --- | --- | --- |
| 3. | **SHOW WORK -** If you started with 39.50 grams of a radioactive substance, how much would you have left over after 5 half-lives? | |
| A) | 7.9 |
| B) | 98.75 |
| C) | 1.234375 |
| D) | 0 |

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| 4. | **SHOW WORK -** The Cs-131 nuclide has a half-life of 30. years. After 108 years, about 3.0 grams remain. The original mass of the Cs-131 sample is closest to | |
| A) | 36 g |
| B) | 127 g |
| C) | 18 g |
| D) | 73 g |

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| 5. | The half-life of a radioactive nuclide is | |
| A) | the time it takes for 50% of the original number of atoms to undergo radioactive decay. |
| B) | the time in which 25% of the original number of atoms undergoes radioactive decay. |
| C) | the time it takes to reduce the radioactivity by 100%. |
| D) | the time in which the isotope becomes nonradioactive. |

VERSION 2

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VERSION 2

**Answer Key**

|  |  |
| --- | --- |
| 1. | B |
| 2. | C |
| 3. | C |
| 4. | A |
| 5. | A |