**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 7.5 years. If you started with 56.7 grams, how many grams will still be radioactive after 20.74 years?  |
| A) | 78.3972 |
| B) | 8.339399 |
| C) | 44.12905 |
| D) | 385.506176 |

|  |  |
| --- | --- |
| 2. | **SHOW WORK -** The Cs-131 nuclide has a half-life of 30. years. After 109 years, about 3.0 grams remain. The original mass of the Cs-131 sample is closest to |
| A) | 19 g |
| B) | 37 g |
| C) | 130 g |
| D) | 74 g |

|  |  |
| --- | --- |
| 3. | The half-life of a radioactive nuclide is |
| A) | the time in which the isotope becomes nonradioactive. |
| B) | the time it takes to reduce the radioactivity by 100%. |
| C) | the time in which 25% of the original number of atoms undergoes radioactive decay. |
| D) | the time it takes for 50% of the original number of atoms to undergo radioactive decay. |

|  |  |
| --- | --- |
| 4. | **SHOW WORK -** A radioactive element has a half-life of 8.13 days. What percent of the original sample is left after 15.0 days? |
| A) | 27.8% |
| B) | 52.8% |
| C) | 13.9% |
| D) | 55.7% |

|  |  |
| --- | --- |
| 5. | **SHOW WORK -** If you started with 35.50 grams of a radioactive substance, how much would you have left over after 7 half-lives?  |
| A) | 0 |
| B) | 5.071429 |
| C) | 0.277344 |
| D) | 124.25 |

VERSION 5

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VERSION 5

**Answer Key**

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

**Answer Key**

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