

Name \_\_\_\_\_

**Section 6-6 Day 2**

1. The half-life of carbon-14 is 5700 years. Find the age to the nearest year of a sample in which 22% of the radioactive nuclei originally present have decayed.

[A] 2043 years                      [B] 3043 years                      [C] 1943 years                      [D] 2493 years

[1] \_\_\_\_\_

2. If \$8000 is invested at an interest rate of 6%, compounded continuously, determine the balance in the account after 3 years. Use the formula  $A = Pe^{rt}$ .

[A] \$9577.74                      [B] \$59,112.45                      [C] \$10,169.99                      [D] \$9528.13

[2] \_\_\_\_\_

3. The half-life of carbon-14 is 5700 years. Find the percentage of the original carbon-14 nuclei that remains in a sample after 866 years have passed.

[3] \_\_\_\_\_

4. If \$13,200 is invested at an interest rate of 6.75%, compounded continuously, determine the balance in the account after 2 years. Use the formula  $A = Pe^{rt}$ .

[4] \_\_\_\_\_