Name _____ Date _____ Class _____

REVIEW

7 SECTION 7.2

Nuclear Fission and Fusion

1. **Match** the terms on the left with the correct definition on the right.

a. critical mass	**A.** attractive force that acts between nucleons at very short distances
b. strong nuclear force	**B.** joining of two lighter nuclei to form a heavier nuclei
c. fusion reaction	**C.** the minimum mass of a fissionable isotope in which a nuclear chain reaction can occur

2. **Describe** how a fission reaction is started.

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3. **Describe** a characteristic of a fissionable substance that is essential for a chain-reaction to sustain itself.

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4. **Explain** why the energy associated with even a small mass is immense. (**Hint:** Consider the way *c* appears in the mass-energy equation.)

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5. **Determine** whether the following statements are true or false.

_____ **a.** The strong nuclear force that causes protons and neutrons in the nucleus to attract each other is not quite as strong as the electric repulsion between protons.

_____ **b.** The attraction caused by the strong nuclear force occurs over a very short distance.

_____ **c.** Protons in a nucleus both repel and attract each other, while neutrons only attract.

_____ **d.** In stable nuclei, the attractions between the particles are stronger than the repulsions.

_____ **e.** A nucleus with more than 83 protons is unstable and undergoes radioactive decay.