Name

Date

Period

Quiz- Unit 4 Nuclear Chemistry

Part A-

1) List the three types of radiation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

2) When two atoms of the same element have the same number of protons, but a different number of neutrons we call this an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

3) What is the name of the force that holds the nucleus together? \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ force

4) An unstable nucleus is when a nucleus contains too few or too many \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

5) What does the “🡪” represent in a nuclear equation? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| Part B-  Match the nuclear form to their vocabulary word.  \_\_\_\_\_\_ 6) alpha radiation a) 0 y  0    \_\_\_\_\_\_ 7) gamma radiation b) 4 He  2  \_\_\_\_\_\_ 8) beta radiation c) 0 e  -1 | Part C-  Draw a picture of the particle for each type of radiation.  9) beta particle  10) alpha particle  11) gamma particle |

Part D-

Match the vocabulary word to its definition-

\_\_\_\_\_\_12) radioisotope d) when an atom emits alpha, beta, or gamma radiation it is undergoing decay

\_\_\_\_\_\_13) half-life e) a reaction in which a high speed nuclear particle collides with a nucleus to produce a different nucleus

\_\_\_\_\_\_ 14) radioactive decay f) the length of time for half of a given sample of a radioisotope to decay

\_\_\_\_\_\_ 15) nuclear bombardment reaction g) an isotope that is radioactive or emitting radiation