Worksheet: Nuclear Chemistry

1. Identify the following types of radiation:

a. $^{0}_{1}e$ _____

b. $^{4}_{2}He$ _____

c. $^{0}_{-1}e$ as reactant _____

d. $^{0}_{0}\gamma$ _____

e. $^{0}_{-1}e$ as product _____

2. Explain how gamma radiation is different from other types of radiation.

3. Write the reactions described:

a. Alpha emission of ^{162}Re

b. Positron emission of ^{165}Ta

c. Electron capture of ^{126}Ba

4. Complete and balance the following nuclear equations:

a. $^{90}_{38}Sr \rightarrow {}^{0}_{-1}e + ?$ _____

b. $^{218}_{85}At \rightarrow {}^{214}_{83}Bi + ?$ _____

c. $^{76}_{36}Kr + {}^{0}_{-1}e \rightarrow ?$ _____

d. $^{188}_{80}Hg \rightarrow {}^{188}_{79}Au + ?$ _____