

Nuclear Decay

Name: _____

Part 1: Isotope Notation

1) How many protons, neutrons and electrons are present in $^{130}_{51}\text{Sb}^{-3}$?

3) Write the complete chemical symbol for the ion with 91 neutrons, 62 electrons and 65 protons.

2) How many protons, neutrons and electrons are present in $^{94}_{42}\text{Mo}^{+2}$?

4) Write the complete chemical symbol for the ion with 10 electrons, 8 protons and 9 neutrons.

Part 2: Nuclear Decay Reactions

1) Write a nuclear equation for the alpha decay of $^{268}_{105}\text{Db}$

5) What material would beta decay into $^{213}_{82}\text{Pb}$?

2) Write a nuclear equation for the beta decay of $^{120}_{50}\text{Sn}$

6) What kind of decay occurs when $^{223}_{88}\text{Ra}$ is produced from $^{227}_{90}\text{Th}$?

3) Write a nuclear equation for the gamma decay of $^{169}_{65}\text{Tb}$

7) What material would beta decay into $^{25}_{12}\text{Mg}$?

4) What material would alpha decay into $^{140}_{58}\text{Ce}$?

8) What kind of decay does $^{62}_{25}\text{Mn}$ undergo to become $^{62}_{25}\text{Mn}$?

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Part 1: Isotope Notation

1) Write the complete chemical symbol for the ion with 88 protons, 147 neutrons and 86 electrons

3) How many protons, neutrons and electrons are present in $^{195}_{76}\text{Os}^{+3}$?

2) Write the complete chemical symbol for the ion with 18 electrons, 22 neutrons and 19 protons

4) How many protons, neutrons and electrons are present in $^{21}_9\text{F}^{-1}$?

Part 2: Nuclear Decay Reactions

1) Write a nuclear equation for the alpha decay of $^{133}_{54}\text{Xe}$

5) What material would alpha decay into $^{231}_{90}\text{Th}$?

2) Write a nuclear equation for the gamma decay of $^{244}_{94}\text{Pu}$

6) What kind of decay occurs when $^{235}_{91}\text{Pa}$ is produced from $^{239}_{93}\text{Np}$?

3) Write a nuclear equation for the beta decay of $^{210}_{85}\text{At}$

7) What material would beta decay into $^{14}_7\text{N}$?

4) What material would beta decay into $^{231}_{91}\text{Pa}$?

8) What kind of decay does $^{41}_{19}\text{K}$ undergo to become $^{41}_{20}\text{Ca}$?