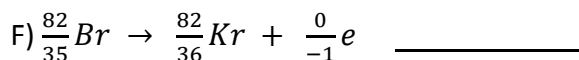
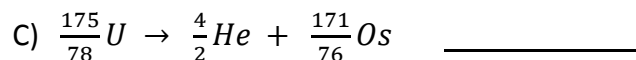
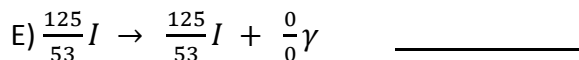
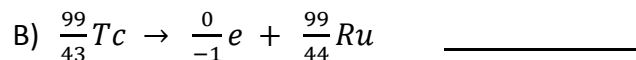
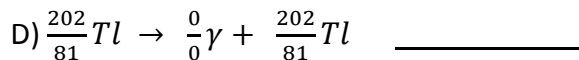
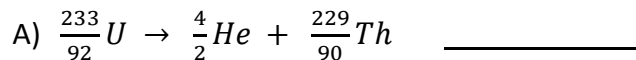
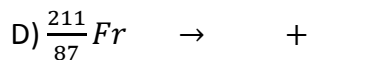
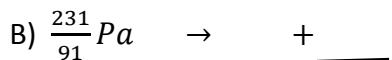
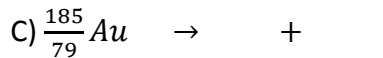
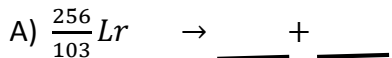
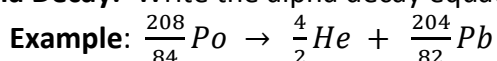


25.1 PROBLEM SET: Alpha & Beta Decay

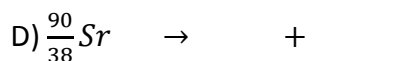
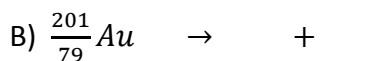
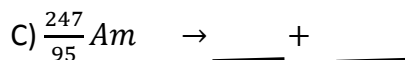
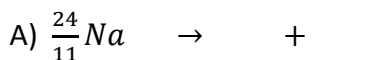
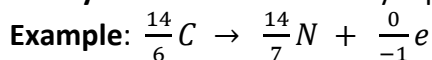
1) Identify the following examples as **alpha, beta, or gamma decay**.



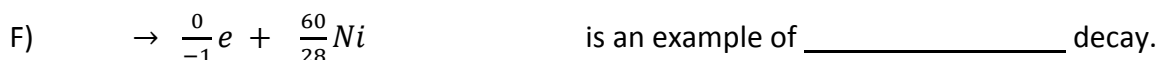
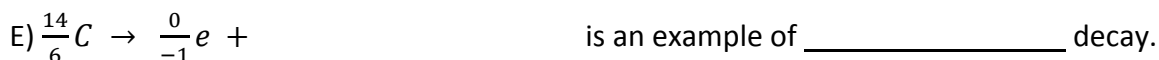
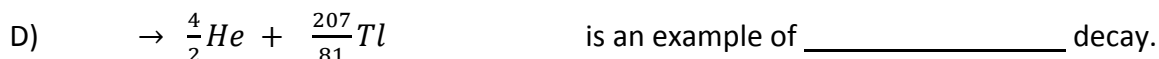
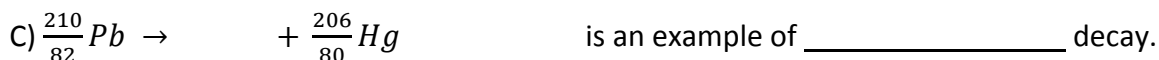
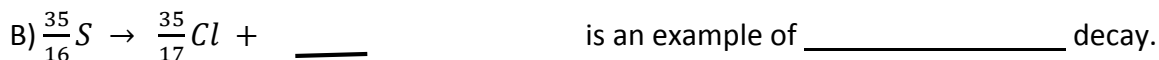
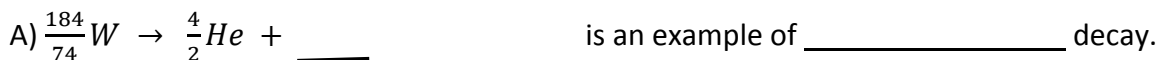
2) **Alpha Decay:** Write the alpha decay equations for the following nuclides.



3) **Beta Decay:** Write the beta decay equations for the following nuclides.



4) **Balancing Decay Reactions:** Fill in the blank in each of the following decay reactions with the correct decay particle or decayed nucleus that will balance the reaction. Also state whether it is alpha or beta decay.



5) **More Nuclear Decay Problems:**

A) Write a nuclear equation for the **alpha decay** of ${}^{231}_{91}\text{Pa}$.

B) Write a nuclear equation for the **beta decay** of ${}^{223}_{87}\text{Fr}$.

C) Write a nuclear equation for the **alpha decay** of ${}^{149}_{62}\text{Sm}$.

D) Write a nuclear equation for the **beta decay** of ${}^{165}_{61}\text{Pm}$.

E) Write a nuclear equation for the **alpha decay** of ${}^{249}_{101}\text{Md}$.

F) Write a nuclear equation for the **beta decay** of ${}^{146}_{62}\text{Sm}$.

G) Write a nuclear equation for the **beta decay** of ${}^{198}_{85}\text{At}$.

H) Write a nuclear equation for the **alpha decay** of ${}^{150}_{64}\text{Gd}$.

I) Write a nuclear equation for the **beta decay** of ${}^{152}_{54}\text{Xe}$.

J) Write a nuclear equation for the **beta decay** of ${}^{120}_{55}\text{Cs}$.