Nuclear Reaction Worksheet

Complete the following equations.

1. $^{212}_{84}Po \rightarrow {}^{4}_{2}He +$
2. $^{142}_{61}Pm + \rightarrow {}^{142}_{60}Nd$
3. $^{253}_{99}Es + {}^{4}_{2}He \rightarrow {}^{1}_{0}n +$
4. $^{218}_{84}Po \rightarrow {}^{4}_{2}He +$
5. $^{22}_{11}Na + \rightarrow {}^{22}_{10}Ne$
6. $^{238}_{92}U \rightarrow + {}^{234}_{90}Th$
7. $^{37}_{18}Ar + \rightarrow {}^{37}_{17}Cl$

1. Write a nuclear equation for the alpha decay of $^{231}_{91}Pa$.
2. Write a nuclear equation for the beta decay of $^{223}_{87}Fr$.
3. Write a nuclear equation for the alpha decay of $^{149}_{62}Sm$.
4. Write a nuclear equation for the beta decay of $^{165}_{61}Pm$.
5. Write a nuclear equation for the alpha decay of $^{249}_{101}Md$.
6. Write a nuclear equation for the alpha decay of $^{146}_{62}Sm$.
7. Write a nuclear equation for the beta decay of $^{198}_{85}At$.
8. Write a nuclear equation for the alpha decay of $^{150}_{64}Gd$.
9. Write a nuclear equation for the beta decay of $^{152}_{54}Xe$.

Write an equation for the following elements through the given emission type.

Alpha Decay:

1. Polonium-218

2. Polonium-214

3. Polonium-210

4. Radium-224

5. Radium-220

6. Radon-220

7. Radon-219

Beta Decay:

1. Lead-210

2. Lead-214

3. Bismuth-210

4. Bismuth-212

5. Bismuth-214