

1. What makes a radioisotope unstable?
2. Describe the mass and charge differences between beta, alpha and gamma radiation.
3. Write radioactive decay equations for the following radioisotopes undergoing specific decay:
 - a. potassium-43 undergoing beta decay
 - b. zirconium-86 undergoing positron emission
 - c. thorium-229 undergoing alpha emission
 - d. titanium-44 undergoing electron capture
4. Write radioactive decay equations for the following radioisotopes by predicting the specific decay:
 - a. ^{247}Cm
 - b. ^{78}As
 - c. ^{81}Kr
 - d. ^{68}Ge
 - e. ^{60}Fe
 - f. ^{232}Th