

Name : _____ Date : _____

Nuclear Chemistry Worksheet

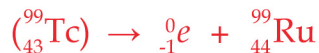
Write the nuclear reactions for the following:

1. Technetium – 99 ($^{43}_{99}\text{Tc}$) decays by beta emission to form ruthenium – 99 ($^{99}_{44}\text{Ru}$)
2. Phosphorous – 32 decays by beta emission to form sulfur – 32
3. Francium – 212 ($^{212}_{87}\text{Fr}$) decays by alpha emission
4. Fluorine – 18 decays to oxygen – 18 by positron emission
5. Sodium – 24 decays by beta emission
6. Krypton – 76 absorbs a beta particle to form bromine – 76
7. Aluminum – 27 absorbs an alpha particle to form phosphorous – 30 and emits a neutron.
8. Nitrogen – 14 absorbs an alpha particle to form oxygen – 17 and emits a proton
9. A particular atom absorbs a neutron to form U-236. No particle is emitted.
10. When neptunium – 239 decays, plutonium – 239 forms, and a particle is emitted.

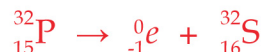
Nuclear Chemistry Worksheet

Write the nuclear reactions for the following:

1. Technetium – 99 ($^{99}_{43}\text{Tc}$) decays by beta emission to form ruthenium – 99 ($^{99}_{44}\text{Ru}$)



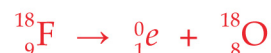
2. Phosphorous – 32 decays by beta emission to form sulfur – 32



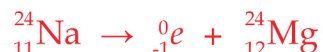
3. Francium – 212 ($^{212}_{87}\text{Fr}$) decays by alpha emission



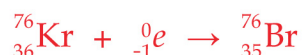
4. Fluorine – 18 decays to oxygen – 18 by positron emission



5. Sodium – 24 decays by beta emission



6. Krypton – 76 absorbs a beta particle to form bromine – 76



7. Aluminum – 27 absorbs an alpha particle to form phosphorous – 30 and emits a neutron.



8. Nitrogen – 14 absorbs an alpha particle to form oxygen – 17 and emits a proton



9. A particular atom absorbs a neutron to form U-236. No particle is emitted.



10. When neptunium – 239 decays, plutonium – 239 forms, and a particle is emitted.

