1. Sketch and label an X-ray Tube:
2. The three basic means of providing personnel protection from radiation are:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. A person receives 3 mr/hr at a certain distance from a radiation source. What would be their **exposure** if they remained at the same distance for 3 hours?
2. The inverse square law as applied to radiation protection states that:
   1. Radiation intensity varies inversely as the square of the time spent near the source.
   2. Radiation intensity varies proportionally with distance from the source.
   3. Radiation intensity varies inversely proportionally to the square of the distance from the source.
   4. Radiation intensity is making my brain go completely crazy.
3. Write out the equation to Solve for **Intensity**:
4. At 2 feet from a radiation source, the radiation measured is 300 R/hr. what is the intensity at 8 feet from the source?
5. A person standing 10 feet from an isotope is measuring 150 mr/hr. What would the intensity be at one foot?
6. Write out the equation to solve for Distance:
7. If the radiation intensity at 6 feet measures 40 R/hr, at what distance would the intensity be reduced to 10 R/hr?
8. Materials used in shielding radiation are most effective when they:
   1. Have a small number of electrons in their atoms.
   2. Are dense materials.
   3. Shield half of the radiation.
   4. All of the above
9. List three of the most common shielding materials used in order of the greatest shielding to the least shielding.
10. Write out the equation to solve for HVL:
11. If the radiation intensity at a certain point is 20 R/hr, how many H.V.L are required to reduce the intensity to 5 R/hr?
12. If the H.V.L of lead for Co-60 is 0.49 inches, what thickness of lead would be required to reduce 600 mr/hr of radiation to under 2 mr/hr?