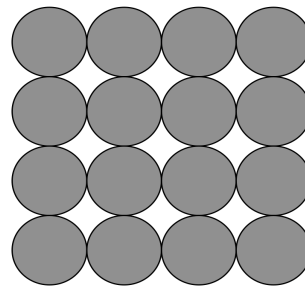
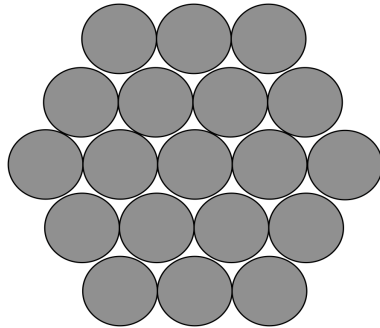


## HW #5

1. Cite the main differences between ionic, covalent and metallic bonding.
2. By looking at their electronic configuration, determine the number of covalent bonds that are possible for each of the following elements:
  - a. Silicon
  - b. Nitrogen
  - c. Sulfur
  - d. Neon
3. A two-dimensional solid can be formed by packing coins in the following two ways:



- a) What kind of symmetry does each of the structures have?
- b) What is the atomic packing fraction (APF) for each of the structures? In this case, the APF is the fraction of the area occupied by the atoms. Compare the two APFs.