Quiz: Ch 10 & 11   **Name:**
AP Chem   **Date:**
Version C   **Period:**

1. The van der Waals equation of state for one mole of a real gas is as follows:

$$(P + a/V^2)(V - b) = RT$$

 a. For what does the constant a correct in van der Waals equation?

 b. For what does the constant b correct in van der Waals equation?

 c. Predict which of the two molecules, H_2 or H_2S, would have the higher value for a, and which has the higher value for b. Explain.

 d. One of the van der Waals constants can be correlated with the boiling point of a substance. Specify which constant and how it is related to the boiling point.

 e. At 25°C and 1-atmosphere pressure, which of the following gases shows the greatest deviation from ideal behavior? Give two reasons for your choice.
        CH_4 SO_2 O_2 H_2
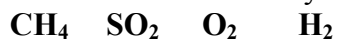
2. Most solids can be described as belonging to one of the following four types listed below.
   For each of these types of solids:
   a. Indicate the kinds of particles that occupy the structure of the solid
   b. Identify forces among these particles. How could each type of solid be identified in the laboratory?

   Ionic
   a. Particles:

   b. Forces:

   Covalent network
   a. Particles:

   b. Forces:

   Metallic
   a. Particles:

   b. Forces:

   Molecular
   a. Particles:

   b. Forces: