The Heart Anatomy Questions

Part A: Gross Anatomy of the Human Heart
1. What is the function of the fluid that fills the pericardial sac?
2. Match the terms in the key to the descriptions provided below

   a. drains blood into the right atrium  atria
   b. superior heart chambers  coronary arteries
   c. inferior heart chambers  coronary sinus
   d. visceral pericardium  endocardium
   e. “anterooms” of the heart  epicardium
   f. equals cardiac muscle  myocardium
   g. provide nutrient blood to the heart muscle  ventricles
   h. lining of the heart chambers
   i. actual “pumps” of the heart

3. What is the function of the valves found in the heart?
4. Can the heart function with leaky valves? (Think: can a water pump function with leaky valves?)
5. What is the role of the chordae tendineae?

Part B: Pulmonary, Systemic, and Cardiac Circulations
1. Differentiate clearly between the roles of the pulmonary and systemic circulations.
2. Complete the following scheme of circulation in the human body:

   Right atrium through the tricuspid valve to the _a_ through the _b_ valve to the pulmonary trunk to the _c_ to the capillary beds of the lungs to the _d_ to the _e_ of the heart through the _f_ valve to the _g_ through the _h_ valve to the _i_ to the systemic arteries to the _j_ tissues to the systemic veins to the _k_ and _l_ entering the right atrium of the heart.

3. If the mitral valve does not close properly, which circulation is affected?
4. Why might a thrombus (blood clot) in the anterior descending branch of the left coronary artery cause sudden death?
5. What role does the unique structure of the cardiac muscle play in its function? (Note: Before attempting a response, describe the unique anatomy)