1. (2.5 points) Distinguish between a turbojet engine and a turbofan engine. Which type is most commonly used for commercial airline service? (Besides the textbook, you can find more details from http://en.wikipedia.org/wiki/Turbofan and http://en.wikipedia.org/wiki/Turbojet)

2. (1 points) Create a list of the factors that differentiate a thermodynamic system from a control volume.

3. (2 points) Consider a conventional house in the northeastern part of the United States. Isolate the house from the surroundings by drawing a control volume. Identify all of the locations where mass enters or exits your control volume.

4. (2 points) Write out the formal definitions of the following terms: property, state, process. Discuss the interrelationships of these three terms.

5. (2 points) The acceleration of high-speed aircraft is sometimes expressed in G’s (in multiples of the standard acceleration of gravity). The standard G-suit provides passive protection to about 5.5 G. The G limit for F-22 Raptor is 9 G. Determine the net force, in lb, that a 90-kg man would experience in an aircraft when the acceleration is 5.5 G’s.

Comments (0.5 point)