1. Explain how end restraints change the buckling load of a column.

2. Explain why bearing walls are a poor system to use for very tall structures.

3. Explain why concrete is much stronger when reinforced with steel bars. Describe the difference between prestressed and posttensioned beams.

4. Provide examples of where you have seen vertical and horizontal cantilevers.

5. What is a pilaster? What are joists?

6. Explain how slabs can be classified.

7. A steel beam 10’ long sags 2” far under a load. How far will a second beam sag under the same load, if it is 10’ long and made of aluminum, but has the same cross-section?

8. A piece of lumber is 1” x 4” x 36” long. If it rests on its 4” side, it deflects 1” under a heavy load. If it rests on its 1” side instead, how much will it deflect?