Name: _____

Group members: _____ _____ _____

TAM 210/211 - Worksheet 4

Objective:

- Solve systems of equilibrium equations using Python

Instruction:

1. Identify the known and unknown parameters in each question below.

2. Draw the proper free-body-diagram(s) that best related unknown/known parameters to each other.

3. Write the corresponding equations of equilibrium.

4. Use Python to solve the system of equations for desired unknowns.

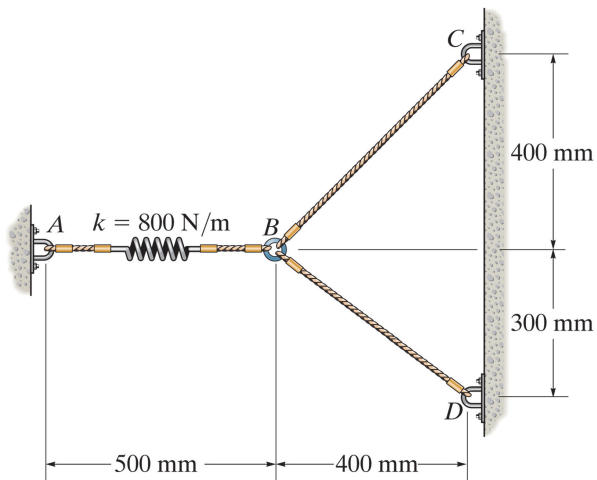1) The spring AB has an unstretched length of 200 mm. Determine the tension in cable BD.

Figure: 03_P015

2) The lift force in the hot air balloon is 50 N. The mass of the hot air balloon is 2 kg. Determine the tension in cable AD.
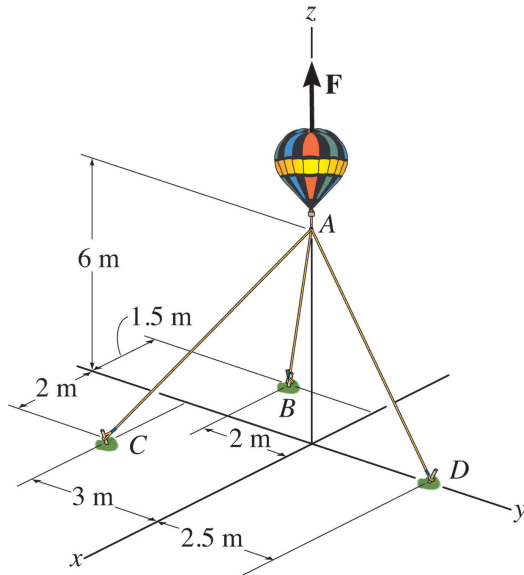

Figure: 03_P048-049

3) The content in the bucket and the bucket itself weighs 12 lb. Determine the tension in cable AB. (Hint: use multiple free-body diagrams.)
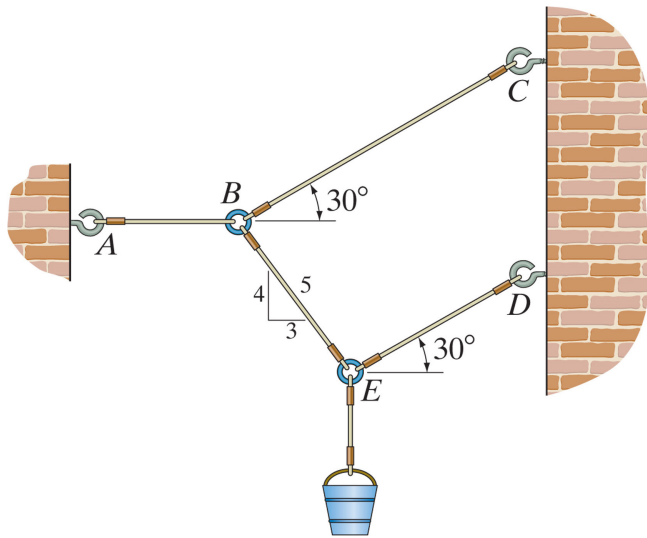

Figure: 03_P031-032

4) Cable connectors E and B have mass of 1 kg. Determine the tension in cable EG. (Hint: use multiple free-body diagrams.)