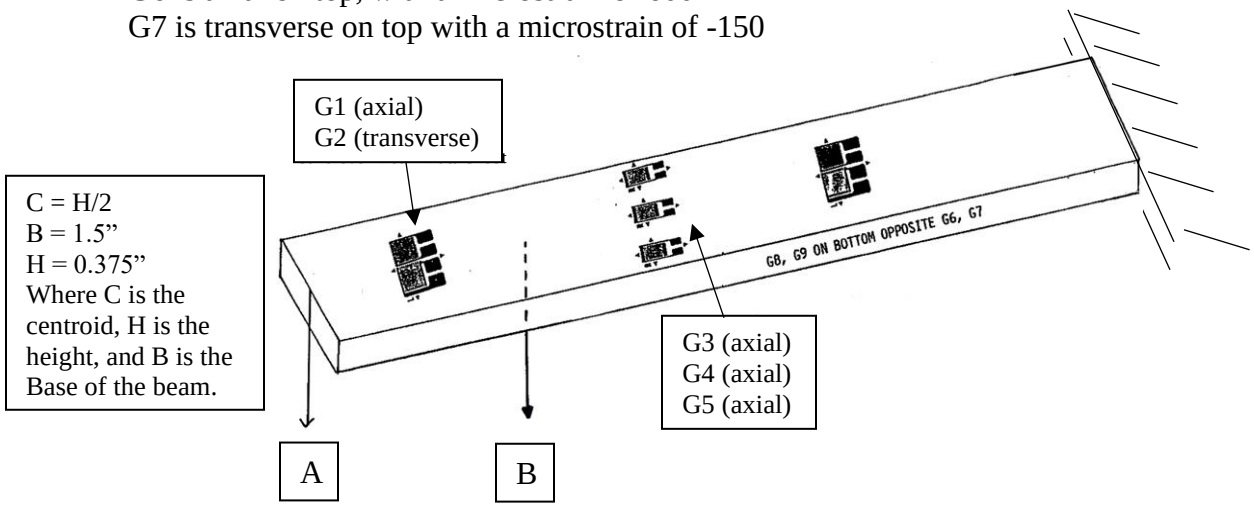
1. Use the following information to solve the following.
   G6 is axial on top, with a microstrain of 600
   G7 is transverse on top with a microstrain of -150



   a. For the beam shown, constrained on the right with loads pulling down on the left, determine the microstrains at G8 (axial) and G9 (transverse) on the bottom of the beam. (hint: the sign matters)

   b. What is Poisson's ratio for the material (note: this only applies for this problem, based on the given data.)

2. Given: Load at A = 10 pounds, Load at B = 0 pounds, Distance from A to G1 and G2 = 3", Distance from B to G1 and G2 = 7", Distance from A to G2,3,&4 = 13", Distance from A to constrained edge = 24"
   E = 10,000,000 psi v = 0.33 material: Al 7075 T651

   a. Calculate the axial stress on top of the beam at G1.
   b. Calculate the axial microstrain on top of the beam at G1.
   c. Calculate the transverse microstrain on top of the beam at G2.
   d. Calculate the axial stress at G4.
   e. Calculate the axial microstrain at G4.

3. Given: Load at A = 10 pounds, Load at B = 10 pounds, Distance from A to G1 and G2 = 3", Distance from B to G1 and G2 = 7", Distance from A to G2,3,&4 = 13", Distance from A to constrained edge = 24"

   a. Calculate the axial stress on top of the beam at G1.
   b. Calculate the axial microstrain on top of the beam at G1.
   c. Calculate the transverse microstrain on top of the beam at G2.
   d. Calculate the axial stress at G4.
   e. Calculate the axial microstrain at G4.