Homework #5

Note: Show all work, provide all answers in inches and radians

Problem 1

- a) Use virtual work to determine the vertical displacement of C
- b) Use virtual work to determine the horizontal displacement of E

Area of members: $A_{AB} = A_{AC} = A_{BC} = 3 in.^2$ $A_{BD} = A_{CD} = A_{CE} = A_{DE} = 5 in.^2$ E = 29,000 ksi for all members



Problem 2

- a) Use virtual work to determine the rotation at A
- b) Use virtual work to determine the vertical displacement of C

$$E = 29,000 \ ksi, I = 100 \ in.^4$$

 $(EI)_{AB} = EI$
 $(EI)_{BC} = 2EI$

