

CET 2214: TRUSS Problem

Homework # 11. Due Tuesday October 15

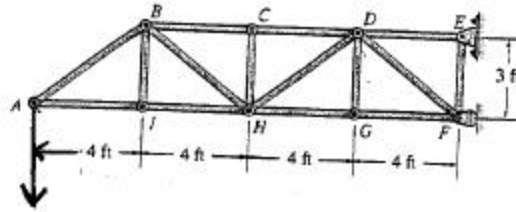
- B) The truss in Part A is being designed to support a lighting assembly at a sports stadium. The lighting will overhang directly above the stadium seating. The force you computed for member GF was used in the design of the steel truss member.

Several months later while the stadium is under construction you discover that you made an error in computing the force member GF. The force is actually much higher than you originally computer. You passed by the stadium yesterday and you recall seeing at least one of the lighting assemblies in place already.

QUESTION: What are you going to do?

Please reference the ASCE/ABET Code of Ethics in support of your answer. Select from the options listed and explain your answer.

1. Email your supervisor explaining your error and that you intend to recheck the member force.
2. Write a formal memo to your supervisor explaining your error and include the corrected force.
3. Do nothing
4. Other



H.W. #11

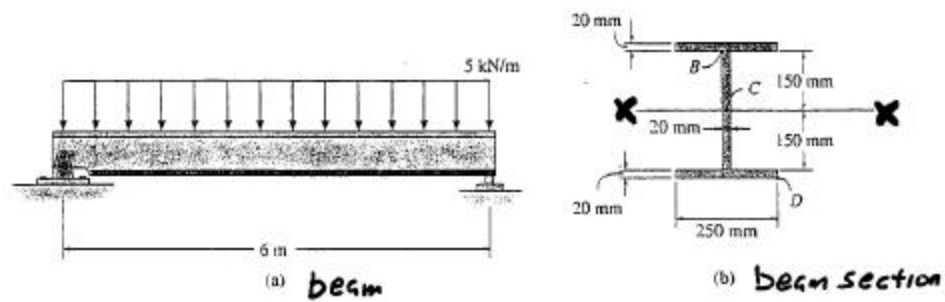
14.5 kips

CET 2214: TRUSS PROBLEM

(A) Compute the force in member GF

CET 2214

HANDOUT PROBLEM



H.W. #15: Handout Problem

- A) Use the parallel axis theorem to compute the moment of inertia about the x-x axis (I_x) through the centroid of the beam section.

B) You designed the beam shown in figures (a) and (b) above. You used an appropriate factor of safety of 3.0 in designing the beam against fracture under loading. Also, you designed the cross section with a high enough moment of inertia to limit beam deflection to a safe value well below an amount which could cause floor deformation or cracking of the walls.

You later found that your design was sold to another company, and then modified by another engineer for use in a steel frame building. To save money, the beam cross-section was altered which cut the I_x value by 25%. The factor of safety against fracture under the loading was not changed. However, you made new deflection calculations and found that the new predicted deflections were much greater than with the previous design and you think those deflections are too high and will cause damage to the building.

You called the engineer that redesigned the beam and were told "thanks" and that the problem would be investigated.

You found out later that the design was not changed and that construction has begun.

What are you going to do? Choose one or more of the following and support your answer with sections of the *Code of Ethics*.

- a) **Nothing:** It is not your design anymore; your name is nowhere on it. It is not your problem.
- b) **Tell your supervisor about the situation and have him check your calculations with you.**
- c) **Call the design engineer and ask if you could work with him (even on a Saturday) to redo the calculations. Possibly there is a design change that you are not aware of. For example, maybe the load is reduced.**
- d) **Have your supervisor go with you to meet with the design engineer and (his/her) supervisor**
- e) **Other**