PASS MOCK MIDTERM EXAM

– FOR PRACTICE ONLY –

Course: ECOR 1101 BCDE **Facilitator:** John Hammond

Dates and locations of mock exam take-up:

- Monday, February 29th from 5:30 PM – 7:30 PM in Southam Hall room 416

- Friday, March 4th from 9:30 AM – 11:30 AM in Mackenzie Building room 3380

It is **most beneficial** to you to write this mock midterm **UNDER EXAM CONDITIONS**. This means:

- Complete the mock midterm exam in **2.5 hours**.
- Work on your own.
- Keep your notes and textbook closed.
- Attempt every question.

After the time limit, go back over your work with a different colour or on a separate piece of paper and try to do the questions you are unsure of. Record your ideas in the margins to remind yourself of what you were thinking when you take it up at PASS.

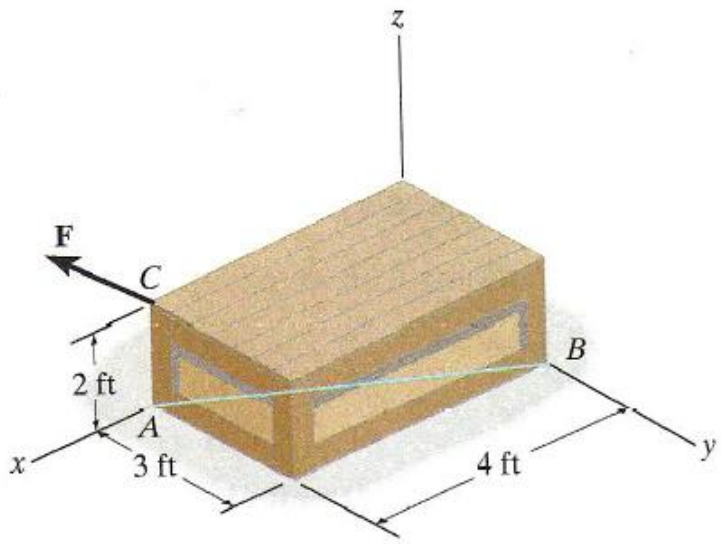
The purpose of this mock exam is to give you practice answering questions in a timed setting and to help you to gauge which aspects of the course content you know well and which are in need of further development and review. Use this mock exam as a ***learning tool*** in preparing for the actual exam.

Please note:

- Come to the PASS session with your mock exam complete. There, you can work with other students to review your work.
- Often, there is not enough time to review the entire exam in the PASS session. Decide which questions you most want to review – the Facilitator may ask students to vote on which questions they want to discuss.
- Facilitators do not bring copies of the mock exam to the session. Please print out and complete the exam before you attend.
- **Facilitators do not produce or distribute an answer key for mock exams.** Facilitators help students to work together to compare and assess the answers they have. If you are not able to attend the PASS session, you can work alone or with others in the class.

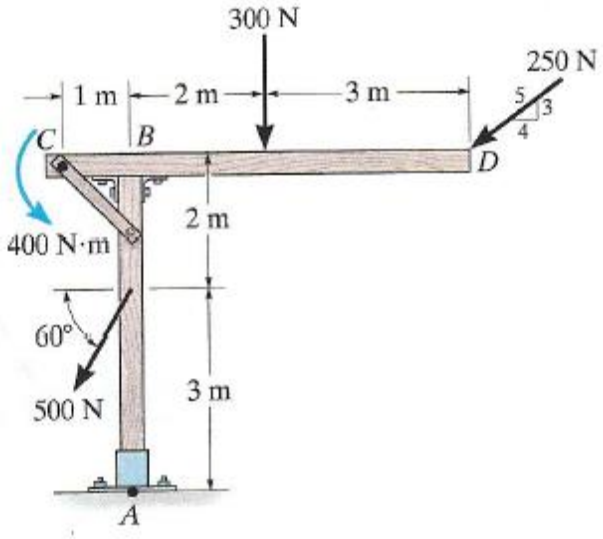
Good Luck writing the Mock Exam!!

1. Determine the moment of **F**= {40**i** -30**j** +60**k**} lb about the *BA* axis and express the result as a Cartesian vector.[1]



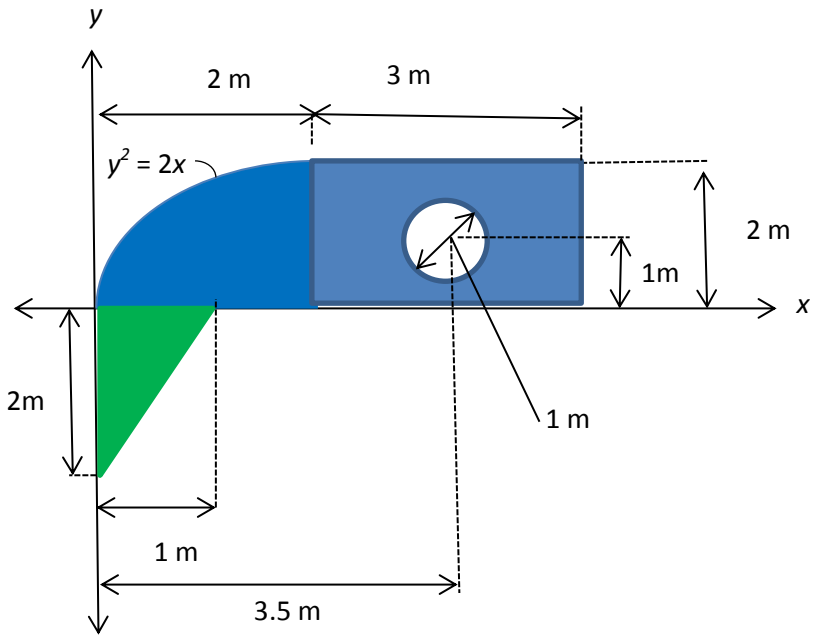
[1] Question and diagram modified from:
Hibbeler, R.C. *Engineering Mechanics: Statics and Dynamics*. Custom Edition for Carleton University. Upper Saddle River: Pearson Education, 2013. Print.

2. Replace the loading on the frame by a single resultant force. Specify where its line of action intersects member AB, measured from A.[2]

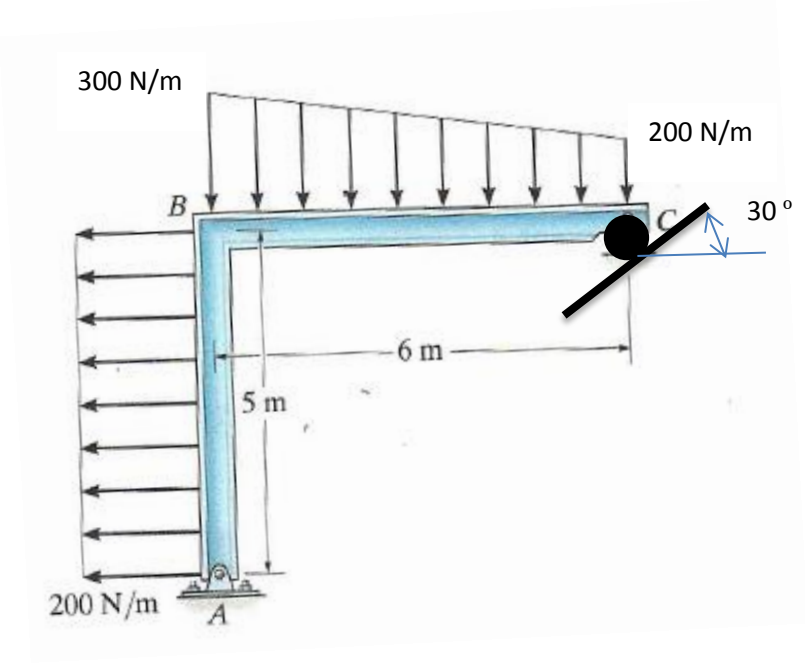


[2] Question and diagram taken from:
Hibbeler, R.C. *Engineering Mechanics: Statics and Dynamics*. Custom Edition for Carleton University. Upper Saddle River: Pearson Education, 2013. Print.

3. Determine the location of the centroid of the entire shaded area below.

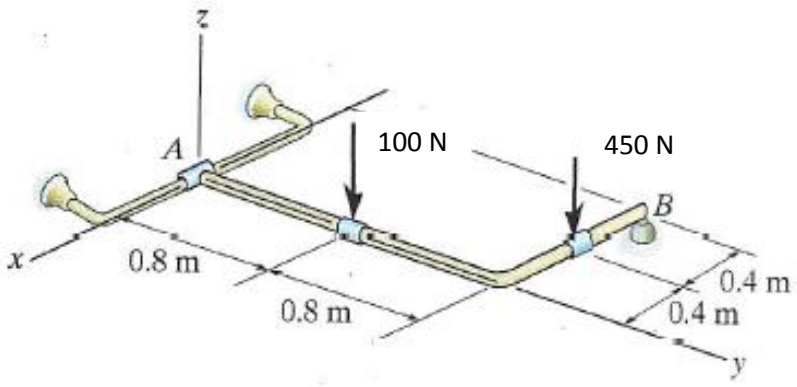


4. Determine the horizontal and vertical components of reaction at the pin A and the reaction at the roller C. (Note: material for this question may not be covered until March 1st) [3]



[3] Question and diagram modified from:
Hibbeler, R.C. *Engineering Mechanics: Statics and Dynamics*. Custom Edition for Carleton University. Upper Saddle River: Pearson Education, 2013. Print.

5. Determine the support reactions at the smooth collar *A* and the normal reaction at the roller support *B.* (Note: material for this question may not be covered until March 1st) [4]



[4] Question and diagram modified from:
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