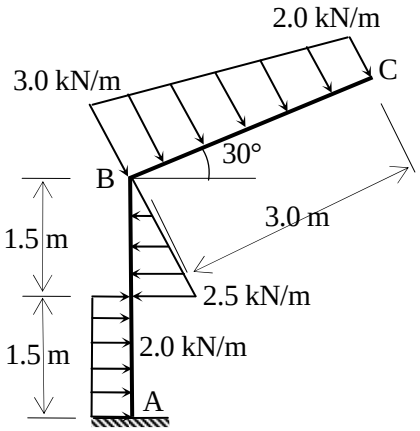
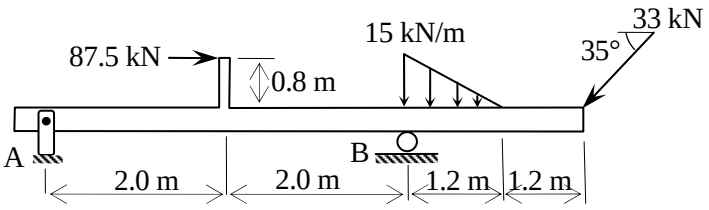
UNIVERSITY OF TORONTO
Department of Civil Engineering

CIV100F - MECHANICS – GROUP G (107)
Problem Set 3
Due: 4:00 pm on September 28, 2012

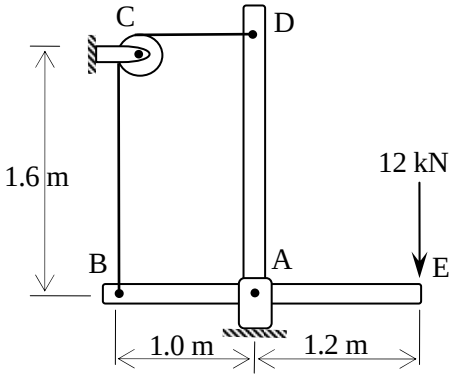
1. A frame system is subjected to the forces shown. Replace the loading by an equivalent force and couple moment at point A. Use a free body diagram in your solution; indicate magnitudes and directions of your results.



2. A 200-kg steel beam supports the loading shown. Determine all reactions at supports A and B. Use a free body diagram in your solution; indicate magnitudes and directions of your results.

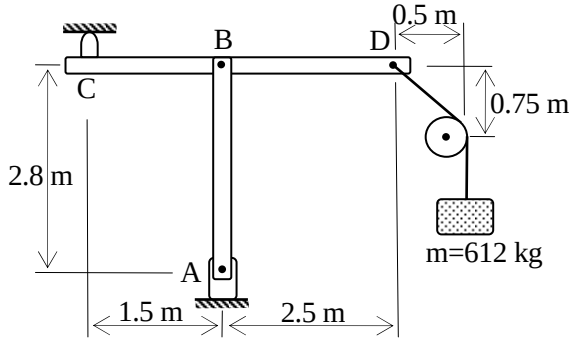


3. Neglecting friction, determine the tension in cable BCD and the reactions at support A. Use a free body diagram in your solution; indicate resultant magnitudes and direction angles of your results. Neglect thicknesses and self-weights of the members.



4. Determine all support reactions for the systems shown. Use a free body diagram in both parts; indicate resultant magnitudes and direction angles of the unknowns. Neglect thicknesses and self-weights of the members.

i.)



ii.)