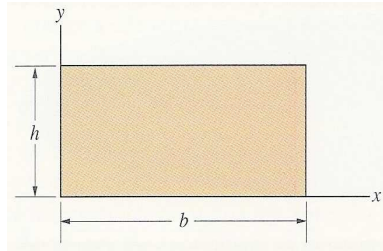


Statics, Fall 1998 FINAL

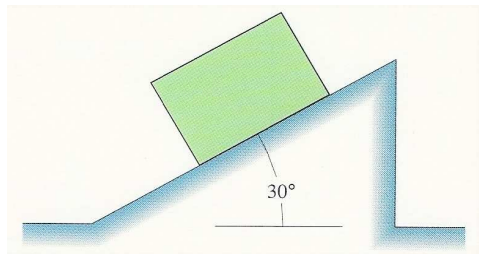
NAME _____ STUDENT NUMBER _____

Show all work! Include all necessary symbols (such as equal signs). The more details you show, the easier it will be to give you partial credit (if needed). Be sure to justify all claims.

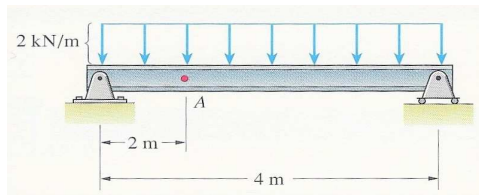
1. Determine I_y and k_y for the region given below. (20 points)



2. The 5-kg box is stationary on the inclined surface. What is the magnitude of the friction force on the box? What is the smallest value of the coefficient of static friction that will permit the box to remain stationary? (20 points)



3. Determine the internal forces and moment at A for the loading given below. (20 points)



4. The 10-ft horizontal cylinder with 1-ft radius is supported at A and B . Its weight density is $\gamma = 100(1 - 0.002x^2)$ lb/ft. What are the reactions at A and B ? (40 points)

