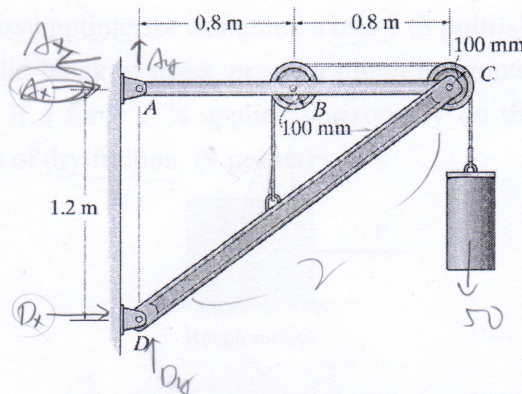


NATIONAL CHUNG CHENG UNIVERSITY
Department of Mechanical Engineering
4201002 Applied Mechanics (I)

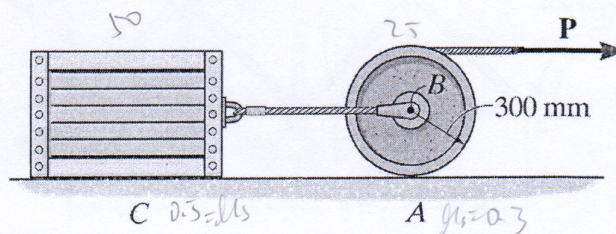
Fall 2011 (100 A)

Midterm (II)

4. The frame is used to support the 50-kg cylinder, as shown in the figure. Determine the horizontal and vertical components of reaction at points A and D. (20 points)

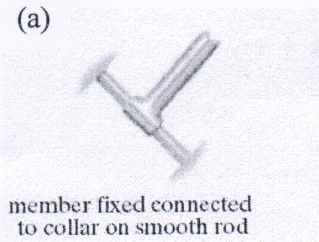


5. Determine the smallest force P that will cause impending motion. The crate and wheel have a mass of 50 kg and 25 kg, respectively. The coefficient of static friction between the crate and the ground is $\mu_s = 0.5$, and that between the wheel and the ground is $\mu'_s = 0.3$. (20 points)

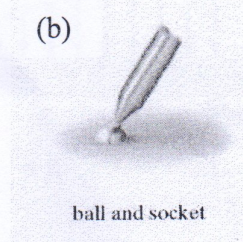


6. (Bonus!) Indicate the reactions for the following supports: (EXTRA 15 points)

(a)



(b)



(c)

