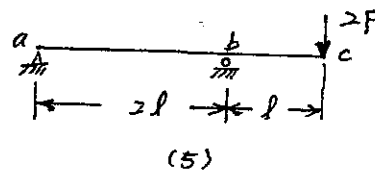
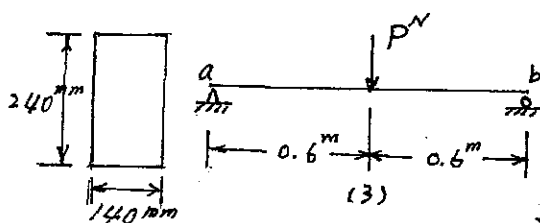
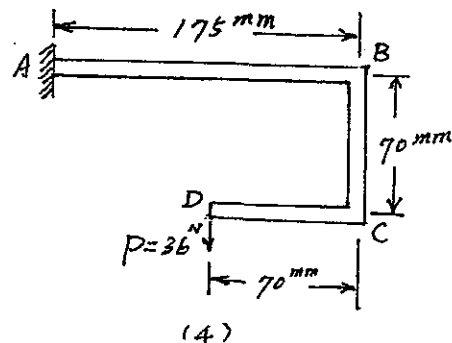
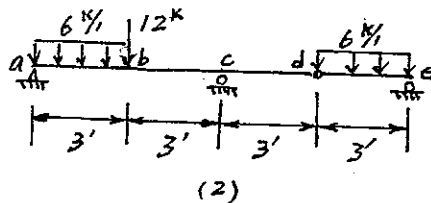
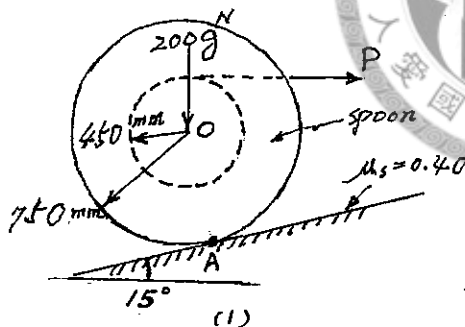


1. The horizontal force P is applied to the cable wrapped around the inner periphery of the 200 kg spool of cable. The coefficient of static friction between the spool and the 15-degree incline is $\mu_s = 0.40$. Calculate the friction force F acting on the spool if P is just sufficient to roll the spool up the incline. (20%)
2. 載重如圖示之樑，試繪該樑之剪力(V-dia)及彎矩(M-dia)分佈圖。(20%)
3. 載重如圖示之樑，其斷面尺寸如圖所示，若其(a)容許彎矩應力為 $\sigma_w = 8.5 \text{ MPa}$ 及(b)容許剪應力為 $\tau_w = 0.8 \text{ MPa}$ ，試分別計算其對應之最大容許載重 P 。(20%)
4. 一實心圓形斷面(直徑 d)之支架(bracket)ABCD，載重 $P = 36 \text{ N}$ 作用於端點 D ，若該支架之容許彎矩應力為 $\sigma_w = 30 \text{ MPa}$ ，試計算支架之最小容許直徑 d 。(20%)
5. 載重如圖示之樑，試用面積-力矩法(Moment-Area Theorems)，計算點 b 之斜率(θ_b)及點 c 之垂直位移(Δ_c)， $EI = \text{constant}$ 。(20%)



試題隨卷繳回