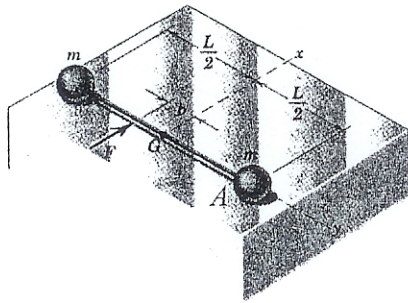
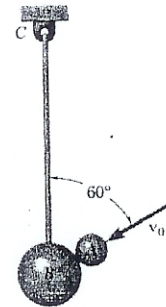


科目 動力學 類組別 035 共 1 頁第 1 頁 *請在試卷答案卷(卡)內作答

- (15%) (請以中文作答) 何謂 (a) kinematics & (b) kinetics。請先寫下中文翻譯，再進行解釋。
- (10%) (請以中文作答) 說明一振動(Vibration)系統所需要的必要元件為何，能量如何在這些元件中轉換？
- (25%) Two balls, each of mass m , are welded to a light, rod of negligible mass. The system is initially at rest on a smooth, horizontal surface. Then, a force F is suddenly applied to the rod as showed. Find (a) the instantaneous acceleration of the mass center G and (b) the instantaneous acceleration of the mass A .



- (25%) A 1-kg ball B is hanged from a extensional cord attached to C . A 200-g ball A strikes B with a velocity v_0 . Assuming perfectly elastic impact, (a) determine the velocity of each ball after impact and (b) calculate the lost energy in the impact.



- (25%) The crank OA rotates in the vertical plane with a constant angular velocity $\omega_0 = 5 \text{ rad/s}$. For OA horizontal, find the force under the light roller B of the 10-kg slender bar AB .

