

元智大學 九十七 學年度研究所 碩士班 招生試題卷

系(所)別： 機械工程學系碩
士班

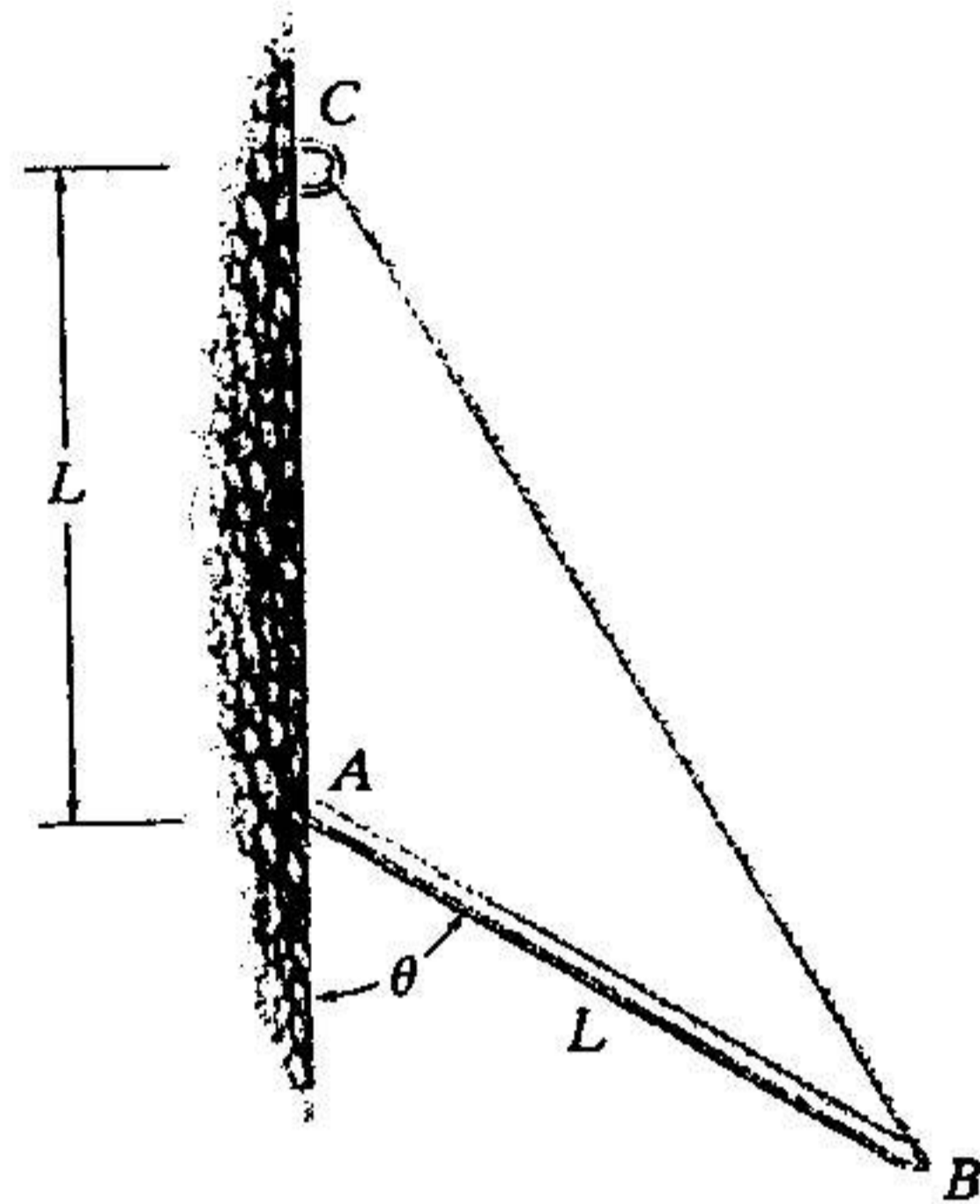
組別： 乙組

科目： 應用力學

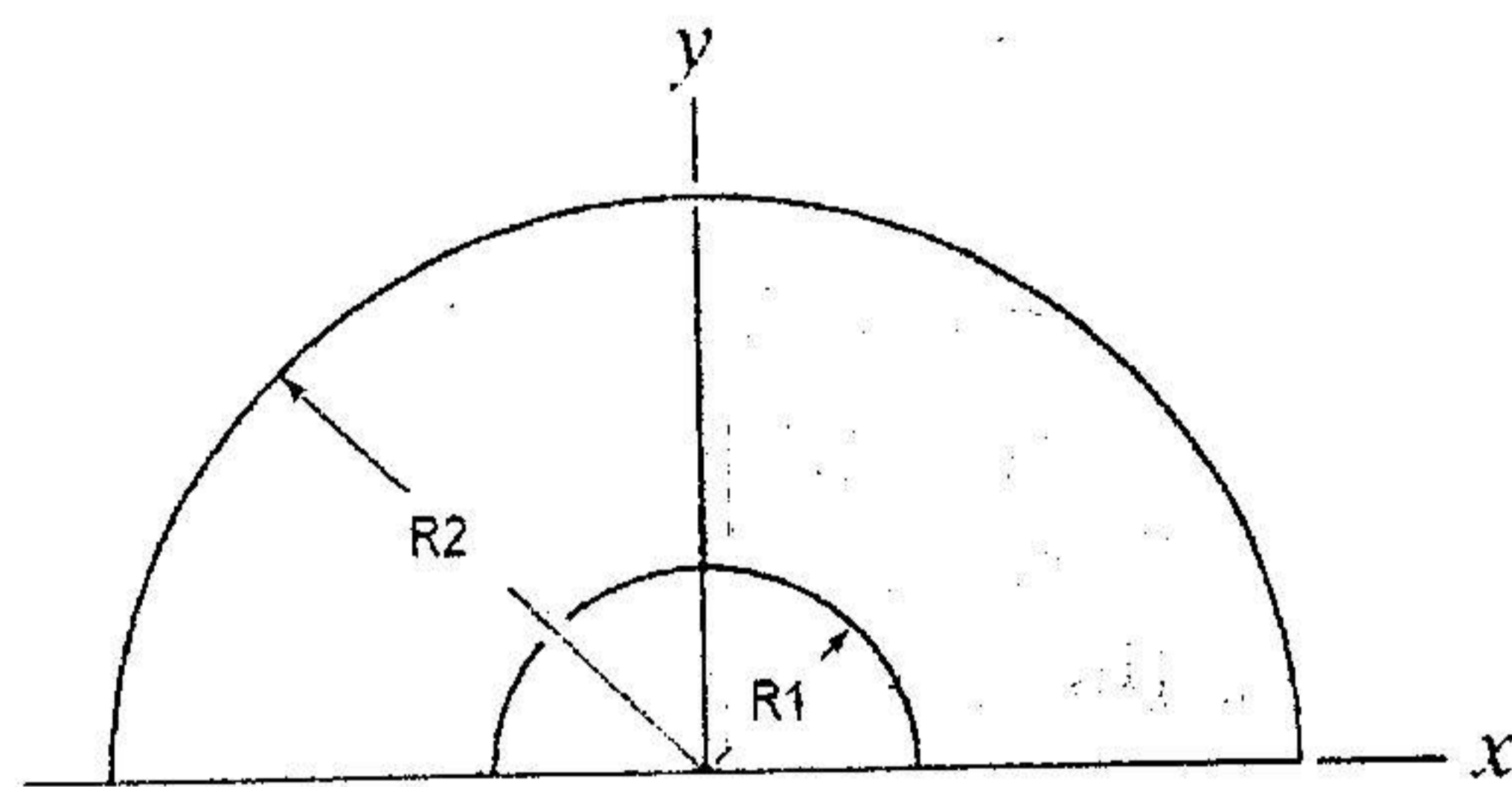
用紙第 1 頁共 2 頁

●不可使用電子計算機

1. The uniform pole has a weight W and length L . Its end B is tied to a supporting cord, and end A is placed against the wall, for which the coefficient of static friction is μ_s . Determine the largest angle θ at which the pole can be placed without slipping. (25%)



2. For the following uniform semi-circular ring with its inside diameter R_1 and outside diameter R_2 , find its center of gravity. (25%)



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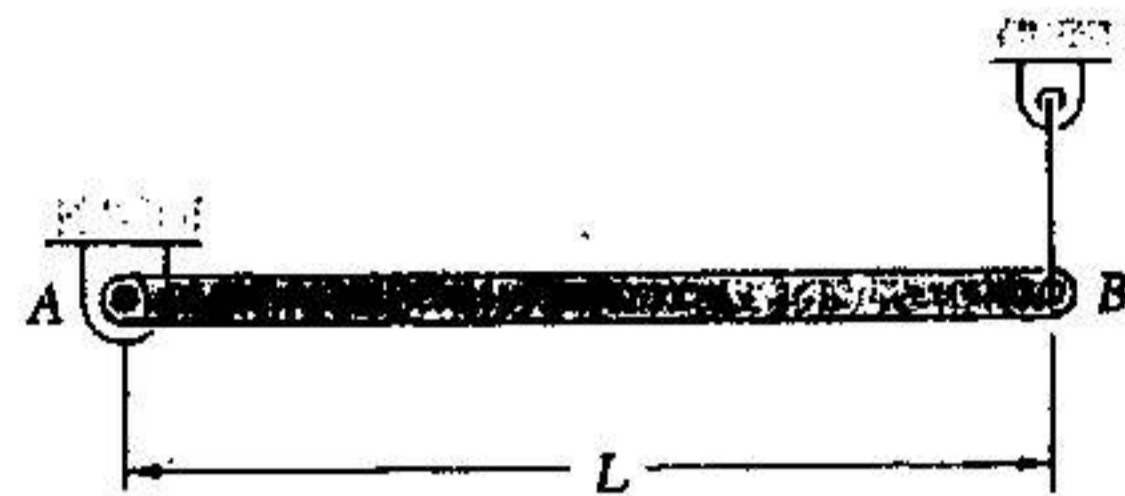
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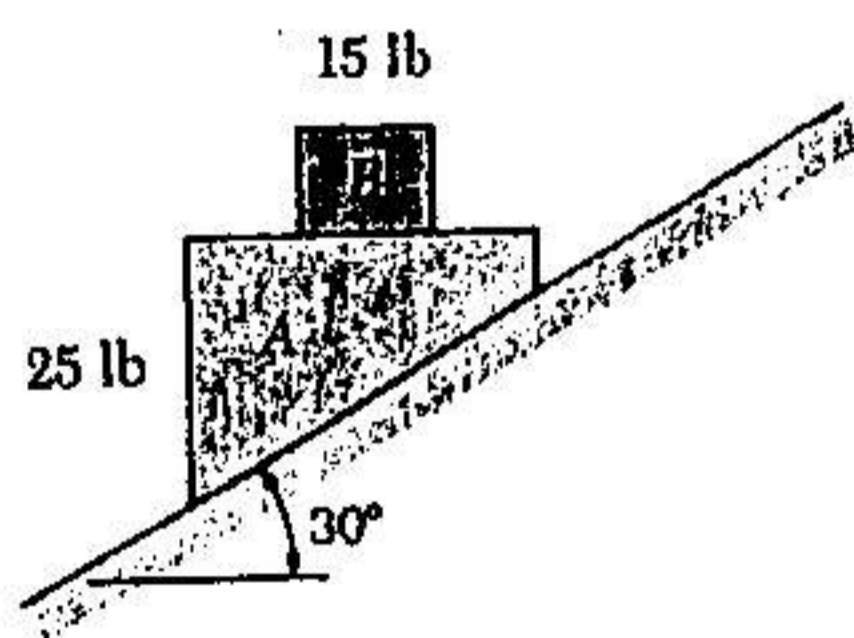
用紙第 2 頁共 2 頁

●不可使用電子計算機

3. A uniform beam of length L and weight W is supported as shown. If the cable suddenly breaks, determine (a) the acceleration of end B. (15%), (b) the reaction at the pin support A. (10%)



4. A 15 lb block B rests on the upper surface of a 25 lb wedge A as shown in the figure. Neglecting the friction, determine (a) the acceleration of wedge A, (15%) (b) the acceleration of B relative to A (10%), immediately after the system is released from the rest.



(命題請用黑色鋼筆、原子筆繕寫或電腦打字；試題字體務求清晰，並一律以正面單頁書寫，背面請勿書寫。)