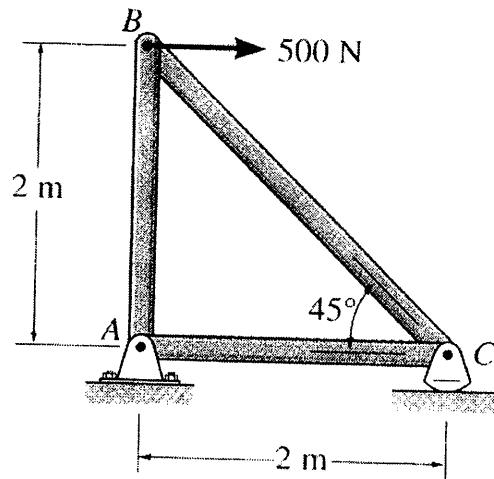


科目	應用力學	適用 系別	機電系三年級	時間	80分鐘
----	------	----------	--------	----	------

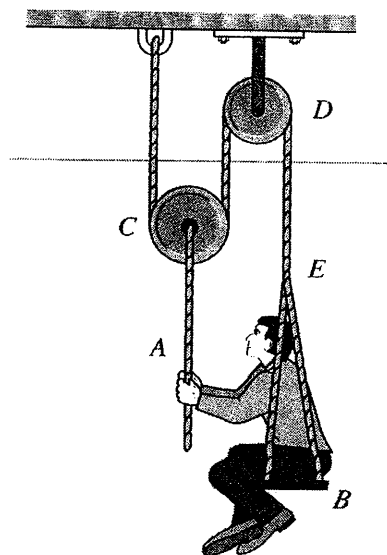
※ 請務必在答案卷作答區內作答 ※

共 2 頁第 1 頁

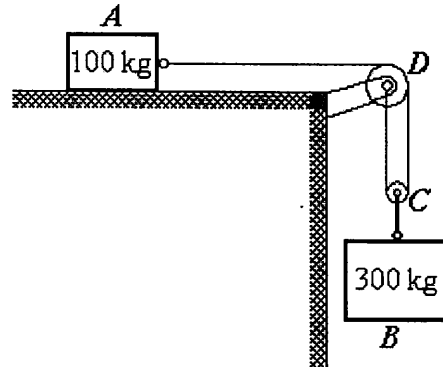
- (1) Determine the force in each member of the truss shown in the figure. Also show the free-body diagram of each pin and member. (25%)



- (2) A man having a weight of 150 lb supports himself by means of the cable and pulley system shown in the figure. If the seat has a weight of 15 lb, determine the equilibrium force the must exert on the cable at A and the force he exerts on the seat. Neglect the weight of the cables and pulleys. Show the free-body diagrams of the man, seat, and pulley C. (25%)



- (3) The two blocks shown start from rest. The horizontal plane and the pulley are frictionless, and the pulley is assumed to be of negligible mass. Determine the acceleration of each block and the tension in each cord. (25%)



- (4) A cord is wrapped around the inner drum of a wheel and pulled horizontally with a force of  $P = 200$  N. The wheel has a mass of 50 kg and a radius of gyration of 70 mm. Knowing that the coefficients of static and kinetic friction are  $\mu_s = 0.20$  and  $\mu_k = 0.15$ , respectively, determine the acceleration of  $G$  and the angular acceleration of the wheel. (25%)

