

科目：工程力學

適用：土木系三

考生注意：

1. 依次序作答，只要標明題號，不必抄題。
2. 答案必須寫在答案卷上，否則不予計分。
3. 限用藍、黑色筆作答；試題須隨卷繳回。

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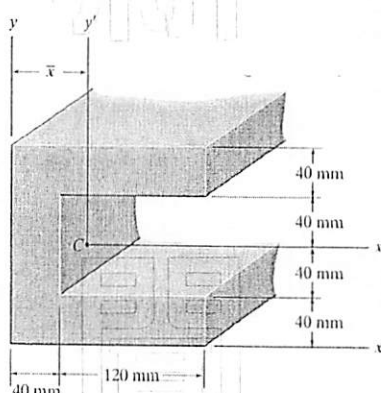
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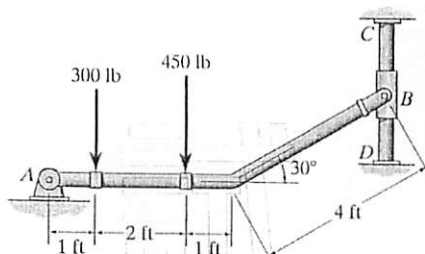
(1) For the cross section as shown below, determine:

(a) the distance \bar{x} which locates the centroidal axis y' for the cross-sectional area, (10%)

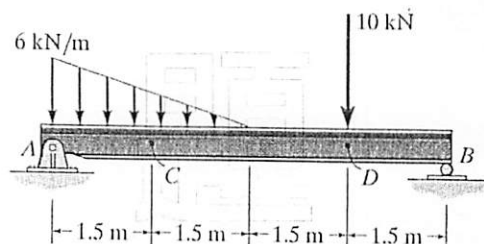
(b) the moment of inertia $\bar{I}_{y'}$ about the y' centroidal axis. (10%)



(2) Determine the horizontal and vertical components of reactions at the pin A and the reaction of the smooth collar B on the rod. (20%)



(3) Determine the internal shear force and moment at points C and D in the simply supported beam. Point D is located just to the left of the 10-kN concentrated load (20%).



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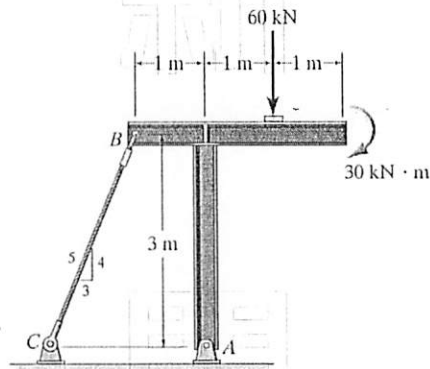
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- (4) Determine the horizontal and vertical components of reaction at the pin A and the tension developed in cable BC used to support the steel frame. (20%)



- (5) Draw the shear and moment diagrams for the cantilevered beam. (20%)

