

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。

本 試 題

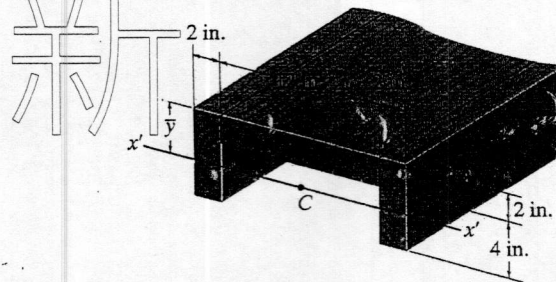
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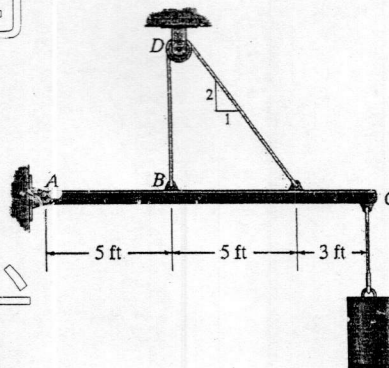
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(1) For the cross section as shown below, determine:

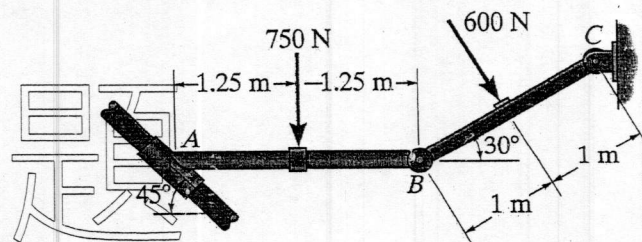
- (a) the centroidal \bar{y} of the cross-sectional area, (10%)
- (b) the moment of inertia $\bar{I}_{x'}$ about the x' centroidal axis. (10%)



(2) Determine the tension in the cable and the horizontal and vertical components of reaction of the pin A . The pulley at D is frictionless and the cylinder weighs 80 lb. (20%)



(3) Determine the reactions on the collar at A and the pin at C . The collar fits over a smooth rod, and the rod AB is fixed connected to the collar (20%).



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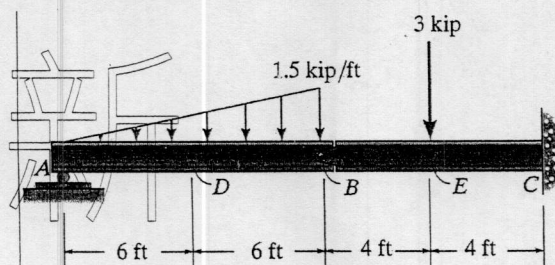
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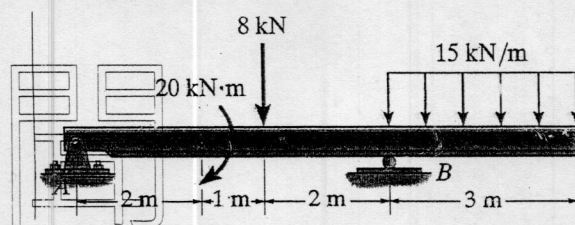
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- (4) Determine the normal force, shear force, and moment in the beam at sections passing through points D. (20%)



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



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