

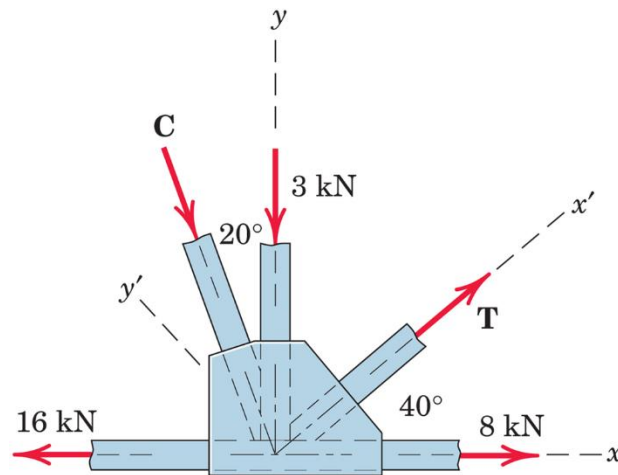
# 111 學年度秋季班機械工程學系機械產業碩士專班 筆試題目

系所：機械工程學系 考試科目：靜力學 考試日期：0409 第1頁，共2頁

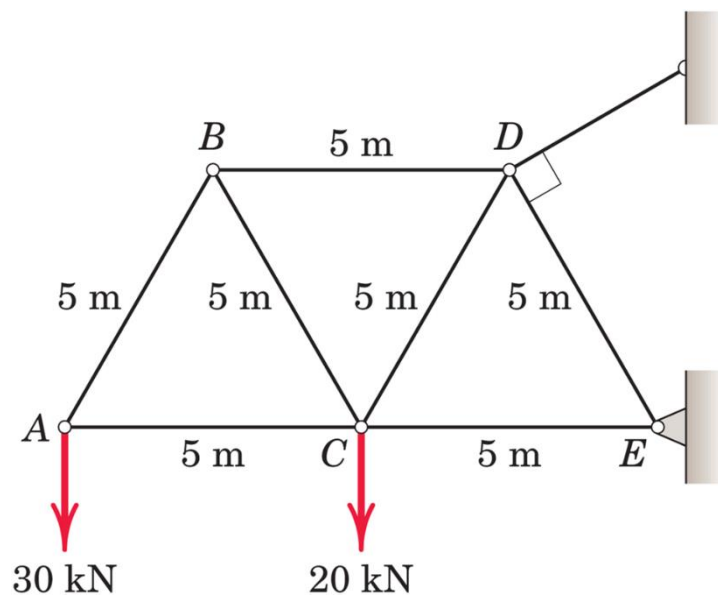
※ 考生請注意：本試題可使用計算機。請於答案卷作答，於本試題紙上作答者，不予計分。

1. (25%) Determine the angles made by the vector  $\mathbf{V} = -36\mathbf{i} + 15\mathbf{j}$  with the positive x- and y-axes. Write the unit vector  $\mathbf{n}$  in the direction of  $\mathbf{V}$ .

2. (25%) Determine the magnitudes of the force  $\mathbf{C}$  and  $\mathbf{T}$ , which along with the other three forces shown, act on the bridge-truss joint.



3. (25%) Compute the force in each member of the loaded cantilever truss by the method of joints.



4. (25%) Determine the distance  $\underline{h}$  from the base of a triangle of altitude  $h$  to the centroid of its area.

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