

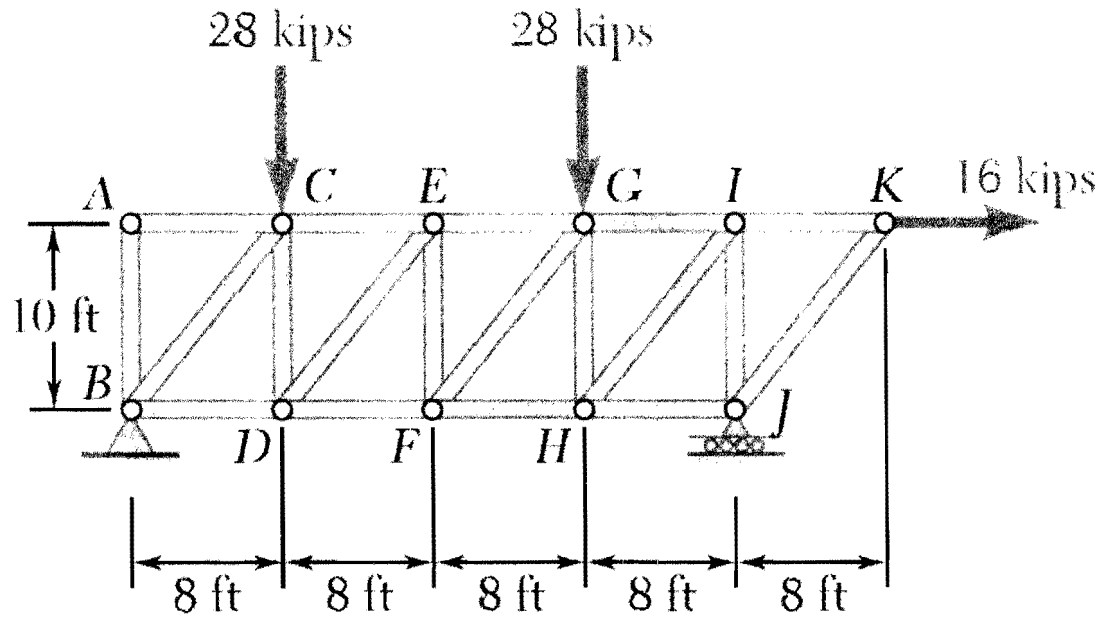
系別：土木工程學系三年級

科目：工程力學(含靜力學、材料力學)

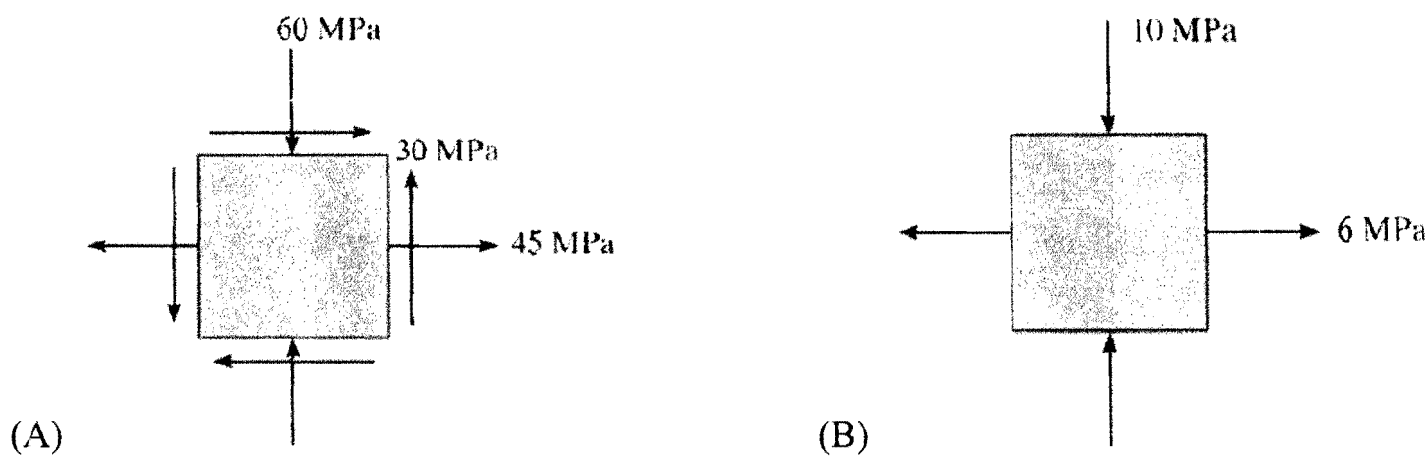
考試日期：1月6日(星期六) 第1節

本試題共 5 大題，2 頁

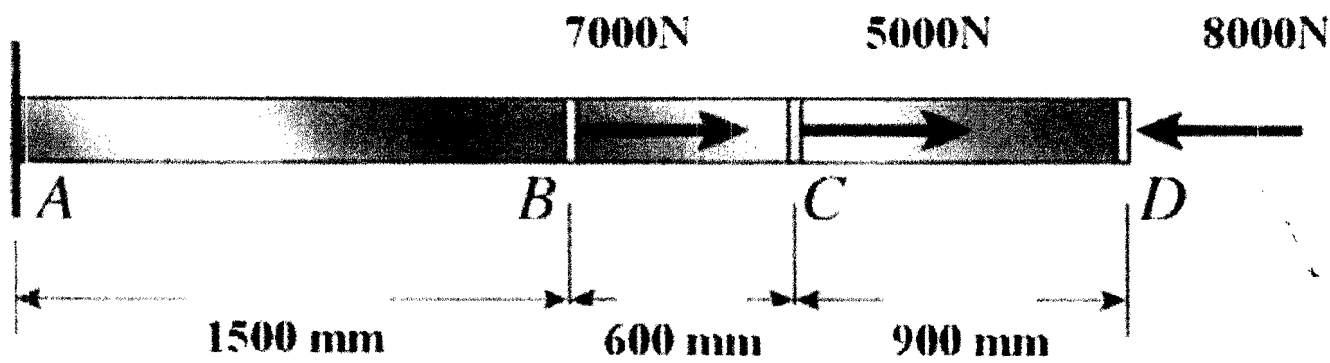
1. [20%] Determine the force in members  $EF$  and  $GI$  of the truss shown.



3. [20%] Draw Mohr's circle that describes each of the following states of stress.



3. [20%] An aluminum bar  $AD$  has a cross sectional area of  $A = 300 \text{ mm}^2$  and is loaded by forces. Knowing the normal strain of segment  $CD$  is  $\epsilon_{CD} = 0.00037$ , calculate the modulus of elasticity  $E$  and the elongation  $\delta_B$ ,  $\delta_C$  and  $\delta_D$ .



淡江大學 106 學年度日間部寒假轉學生招生考試試題

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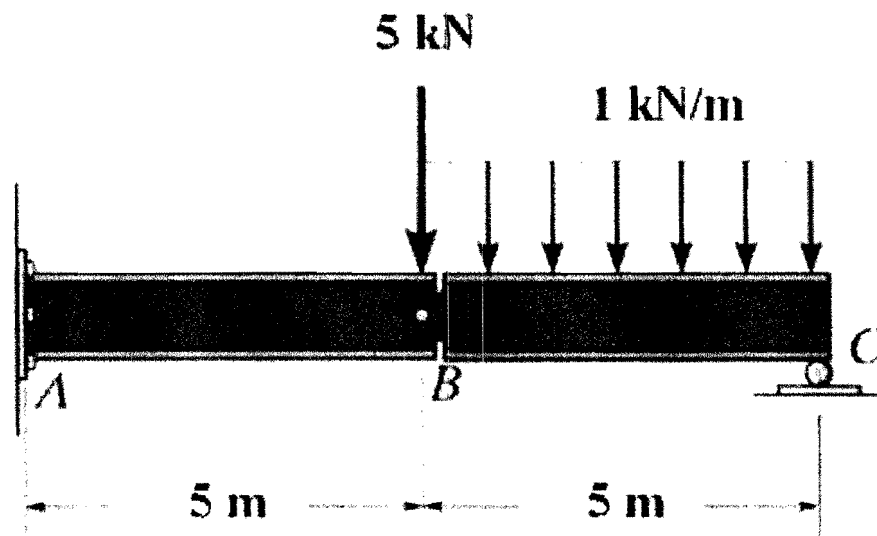
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4. [20%] The compound beam is fixed at  $A$ , pin connected at  $B$ , and supported by a roller at  $C$ . Draw the shear and moment diagrams for the beam.



5. [20%] A 200-kg cylinder is hung by means of two cables  $AB$  and  $AC$ , which are attached to the top of a vertical wall. A horizontal force  $P$  perpendicular to the wall holds the cylinder in the position shown. Determine the magnitude of  $P$  and the tension in each cable.

