

# 淡江大學八十七學年度日間部轉學生入學考試試題

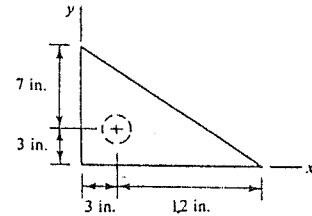
系別：土木工程學系三年級

科目：工程力學 (含靜力學、材料力學)

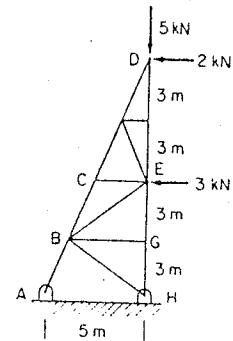
每題皆佔 20 分, 數據完整無缺, 放心作答

本試題共 壹 頁

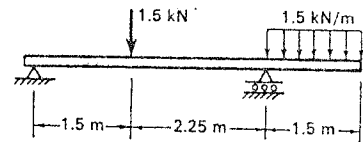
- (1). The location of the center of gravity of a triangular plate is to be adjusted by drilling a hole at the location shown. What is the required hole diameter so that  $\bar{x} = 6.0$  in. ? What is the corresponding value of  $\bar{y}$  ?



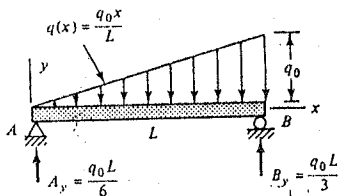
- (2). The truss shown is subjected to the forces as shown. Determine the force in members CB, BE, and BG.



- (3). Draw the shear-force and bending-moment diagram for the beam shown.



- (4). For the beam shown below, determine (a) the deflection equation, (b) the maximum deflection and the location it occurs. The flexural rigidity,  $EI$ , is constant.



- (5). At a point in a body, the stress condition is known as shown in Figure (a). Determine the normal and shear stresses on a plane inclined to the X plane through an angle 30 degree ccw. (a) using equilibrium conditions, and (b) using stress-formula.

