1. Calculate the horizontal and vertical displacement at point a. Specify the method you use. (15%)

2. Calculate and draw the bending moment diagram for the frame by using method of slope-deflection. (20%)

3. Determine the member end moments and reactions for the frame shown in the following using the moment-distributed method. (15%)
4. Draw the influence lines for the vertical reactions at supports, $A_y$, $C_y$, as well as $D_y$, and the shear and bending moment at point $C$, $V_c$ and $M_c$, of the two-span continuous beam shown in the figure. (20%)

5. K-truss 如下图，試求 a, b 两杆之轴力。 (10%)
6. 正六邊形 truss 如下圖，若 a, b, c, d, e, f 六桿之長度為 10 ft，斷面積為 A，g, h, i 三桿之長度為 20 ft，斷面積為 2A，試求 b, g 两桿之軸力。（此 truss 之所有桿件皆相同材料）(20%)