

國立臺北科技大學  
九十五學年度學士班二、三年級轉學生招生考試  
四技三年級 土木工程系 專業科目（二）  
工程力學試題

填准考證號碼

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第一頁 共二頁

注意事項：

1. 本試題共 4 題，配分共 100 分。
2. 請標明大題、子題編號作答，不必抄題。
3. 全部答案均須在答案卷之答案欄內作答，否則不予計分。

1. Determine the moment of the force  $F$  about an axis extending between A and C as shown in Fig. 1. Express the result as a Cartesian vector. (25%)
2. If the couple moment acting on the pipe has a magnitude of 400N-m (Fig.2), determine the magnitude of  $F$  of the vertical force applied to each wrench. (25%)
3. Determine the tension in each segment of the cable and the cable's total length (Fig. 3). (25%)
4. Locate the centroid  $\bar{x}$  and  $\bar{y}$  of the shaded area shown in Fig. 4. (25%)

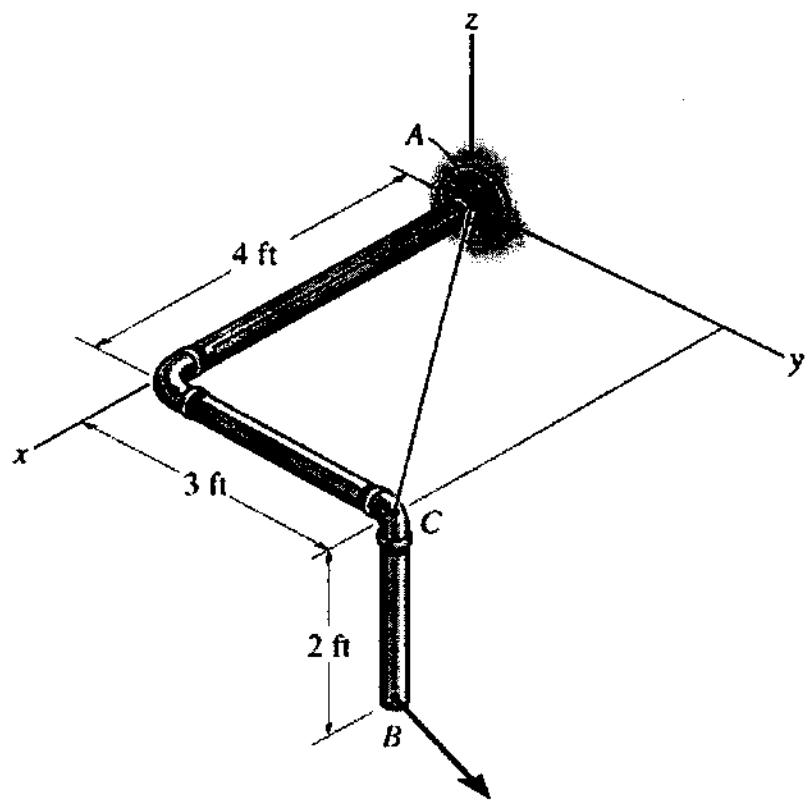


Figure 1  $F = \{4i + 12j - 3k\} 1b$

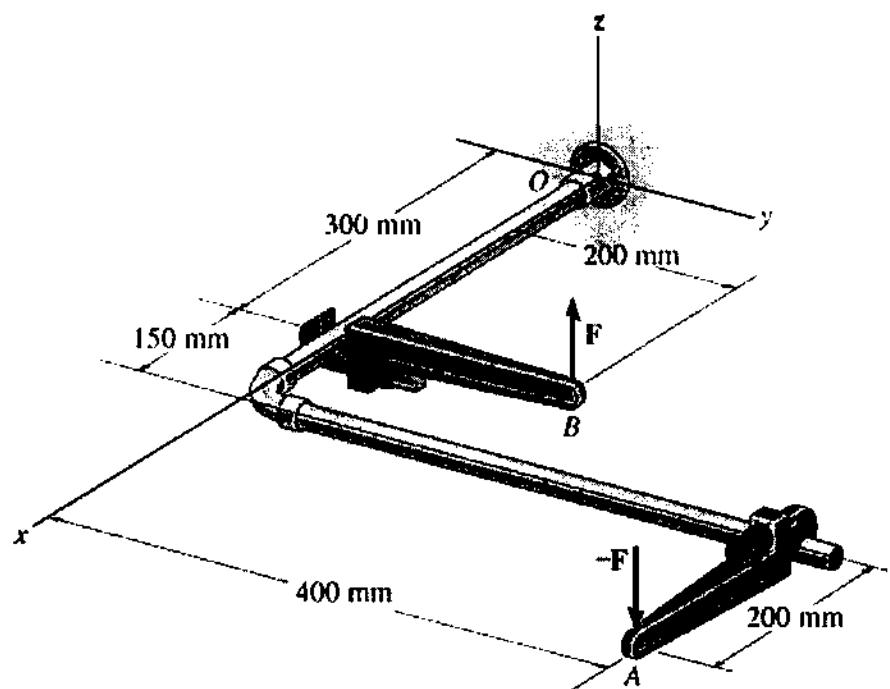


Figure 2

注意：背面尚有試題

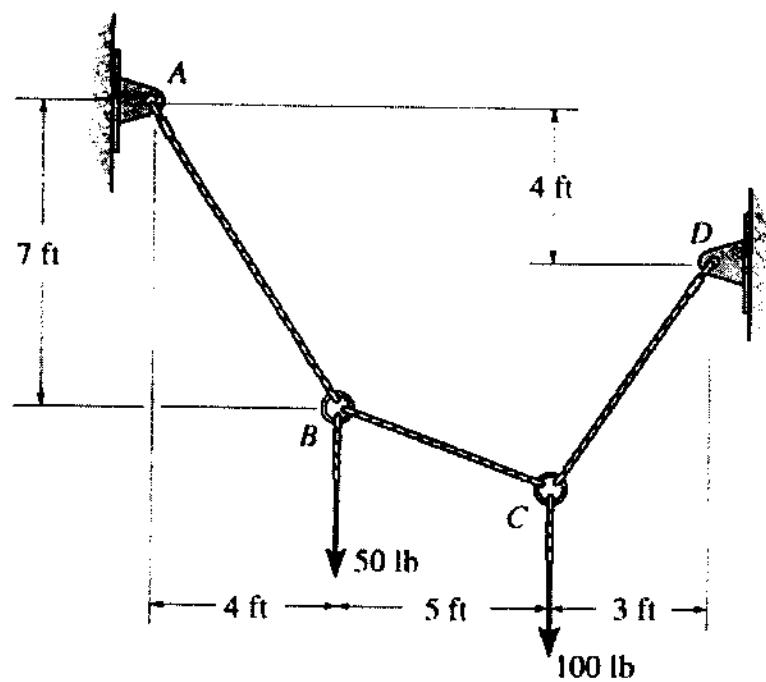


Figure 3

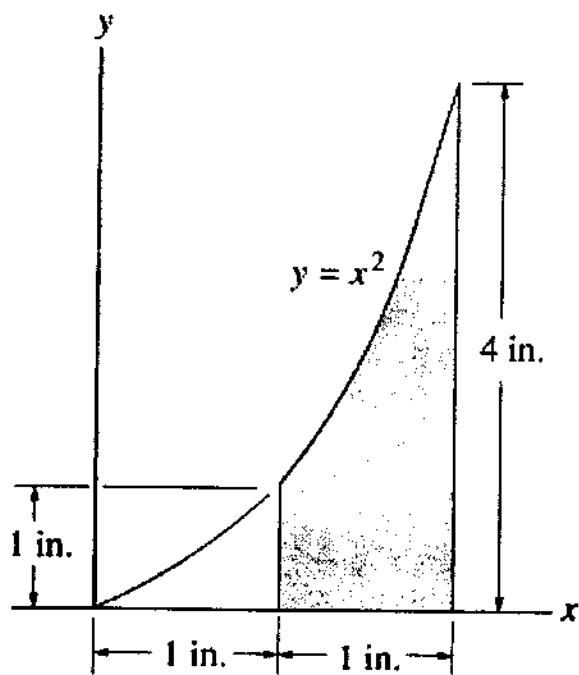


Figure 4