

國立高雄應用科技大學
106 學年度研究所碩士班招生考試
模具工程系碩士班
靜力學

試題 共 2 頁，第 1 頁

注意：a. 本試題共 5 題計算題，須詳列計算過程或敘明理由。每題 20 分，總共 100 分。

b. 作答時不必抄題，可以用中文或英文方式作答。

c. 考生作答前請詳閱答案卷之考生注意事項。

1. The box has a weight of 10 kN. Determine the force in each supporting cable.

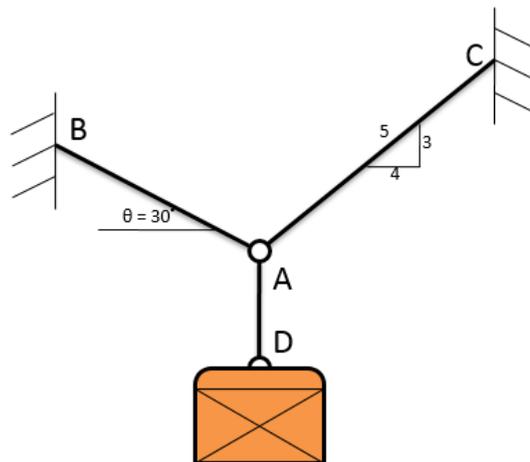


Fig.1

2. A distributed loading of $\omega = 210x$ N/m acts over the top surface of the beam shown in Fig.2. Determine the magnitude and location of the equivalent resultant force.

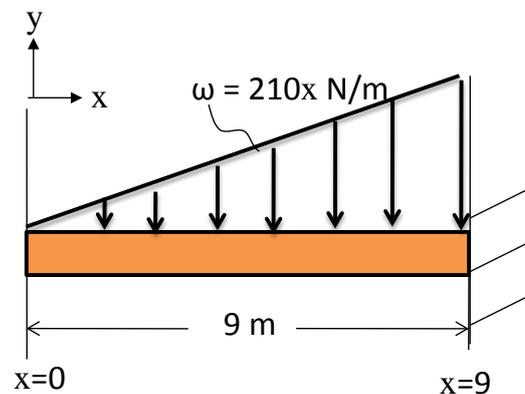


Fig.2

3. Determine the force in member EB of the roof truss shown in **Fig.3**. Indicate whether the member is in tension or compression.

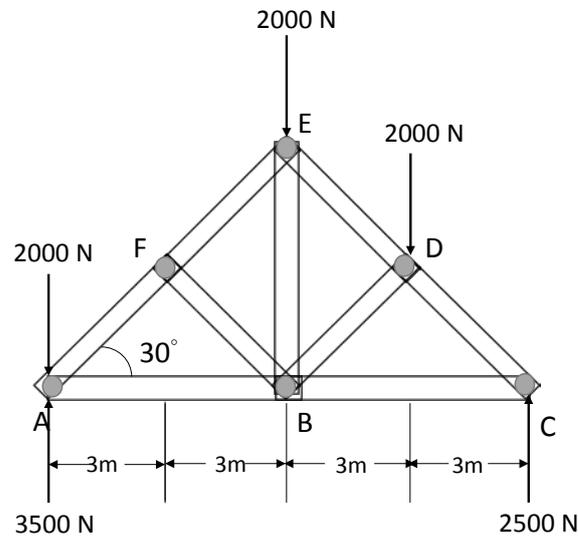


Fig.3

4. Draw the shear and moment diagrams for the cantilever beam in **Fig.4**

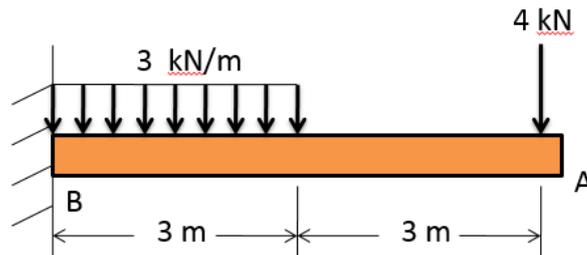


Fig.4

5. The uniform 15-kg ladder in **Fig.5** rests against the smooth wall at B, and the end A rests on the rough horizontal plane for which the coefficient of static friction is $\mu_s = 0.4$. Determine the angle of inclination θ of the ladder and the normal reaction at B if the ladder is on the verge of slipping.

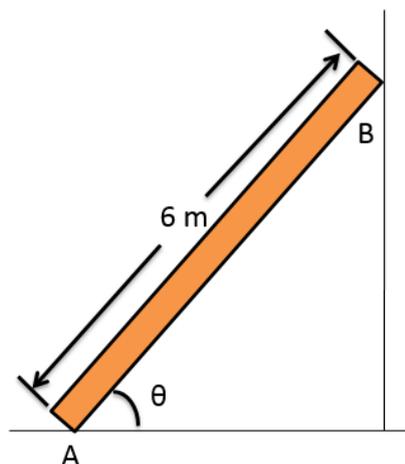


Fig.5