

Name _____ Student number _____

Assignment 2 (2p)

The bar of the figure is loaded by its own weight. Cross-sectional area A and density ρ of the material are constants. Use the bar model boundary value problem

$$\frac{dN}{dx} + b = 0 \quad \text{and} \quad N = EA \frac{du}{dx} \quad \text{in } \Omega,$$

$$nN - F = 0 \quad \text{or} \quad u - \underline{u} = 0 \quad \text{on } \partial\Omega.$$

to determine the stress N and displacement u .

