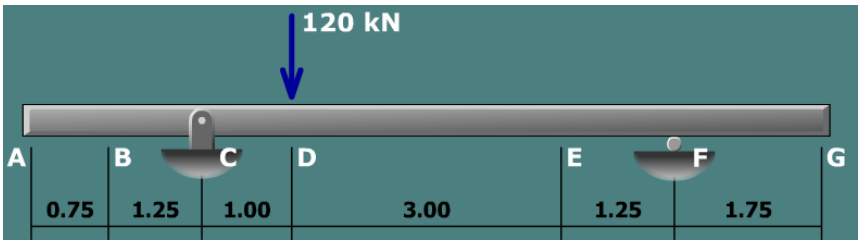
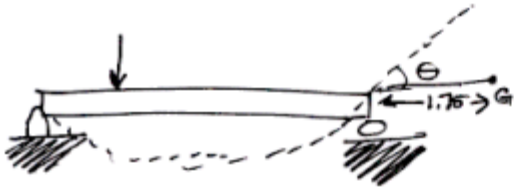
IDE 110 – Summer 2006 Quiz 28 **Name:**_____

A simply supported beam is subjected to a concentrated load of 120 kN at D as shown in the figure below. Span distances are shown in meters. Given that EI = 29.5 x 10^6 Nm^2, determine the beam deflection at G produced by this load.

Show work clearly. Write your answer in the box provided at the bottom of the page. Specify whether deflection is upward (+) or downward (-) and express your answer in mm.





$\delta_G = 1.75(\theta)$

$$\theta = \frac{120(10^3)(1)(5.25^2 - 1^2)}{6(5.25)(29.5)(10^6)}$$

$$\delta = 1.75\theta = 1.75 \times \left(\frac{120(10^3)(1)(5.25^2 - 1^2)}{6(5.25)(29.5)(10^6)} \right) = 0.006\,m \uparrow$$

δ_G =