



$$M_{AB} = \frac{4}{10} EI \theta_A + \frac{2}{10} EI \theta_B - 0.9375$$

$$M_{BA} = \frac{4}{10} EI \theta_B + \frac{2}{10} EI \theta_A$$

$$M_{BC} = \frac{5.52}{5} EI \theta_B + \frac{2.76}{5} EI \theta_C$$

$$M_{CB} = \frac{5.52}{5} EI \theta_C + \frac{2.76}{5} EI \theta_B$$

$$M_{CD} = \frac{5.52}{5} EI \theta_C + \frac{2.76}{5} EI \theta_D - 0.4167$$

$$M_{DC} = \frac{5.52}{5} EI \theta_D + \frac{2.76}{5} EI \theta_C$$

$$M_{DE} = \frac{4}{15} EI \theta_D + \frac{2}{15} EI \theta_E$$

$$M_{ED} = \frac{4}{15} EI \theta_E + \frac{2}{15} EI \theta_D + 3.75$$

$$\sum M_A = 0 = \frac{4}{10} EI \theta_A + \frac{2}{10} EI \theta_B - 0.9375$$

$$\sum M_B = 0 = \frac{4}{10} EI \theta_B + \frac{2}{10} EI \theta_A + \frac{5.52}{5} EI \theta_B + \frac{2.76}{5} EI \theta_C$$

$$\sum M_C = 0 = \frac{5.52}{5} EI \theta_C + \frac{2.76}{5} EI \theta_B + \frac{5.52}{5} EI \theta_C + \frac{2.76}{5} EI \theta_D - 0.4167$$

$$\sum M_D = 0 = \frac{5.52}{5} EI \theta_D + \frac{2.76}{5} EI \theta_C + \frac{4}{15} EI \theta_D + \frac{2}{15} EI \theta_E$$

$$\sum M_E = 0 = \frac{4}{15} EI \theta_E + \frac{2}{15} EI \theta_D + 3.75$$

$$\begin{bmatrix} \frac{4}{10} & \frac{2}{10} & 0 & 0 & 0 \\ \frac{2}{10} & 1.504 & \frac{2.76}{5} & 0 & 0 \\ 0 & \frac{2.76}{5} & 2.208 & \frac{2.76}{5} & 0 \\ 0 & 0 & \frac{2.76}{5} & 1.37067 & \frac{2}{15} \\ 0 & 0 & 0 & \frac{2}{15} & \frac{4}{15} \end{bmatrix} \begin{bmatrix} \theta_A \\ \theta_B \\ \theta_C \\ \theta_D \\ \theta_E \end{bmatrix} = \begin{bmatrix} 0.9375 \\ 0 \\ 0.4167 \\ 0 \\ -3.75 \end{bmatrix}$$

$$\theta_A = 2.4871$$

$$\theta_B = -0.29075$$

$$\theta_C = -0.10966$$

$$\theta_D = 1.4943$$

$$\theta_E = -14.80465$$

$$M_{AB} = 0 \text{ k-ft}$$

$$M_{BA} = .38$$

$$M_{BC} = -.38$$

$$M_{CB} = -.28$$

$$M_{CD} = .28$$

$$M_{DC} = 1.58$$

$$M_{DE} = -1.58$$

$$M_{ED} = 0$$