

ANANDA CHIBINKEM

16/ENG061012

ENG 382

ALIGNMENT III

$$\bar{T}_1 + \bar{T}_2 - 2\bar{T}_3 + \bar{T}_4 + 3\bar{T}_5 - \bar{T}_6 = 4$$

$$2\bar{T}_1 - \bar{T}_2 + \bar{T}_3 + 2\bar{T}_4 + \bar{T}_5 - 3\bar{T}_6 = 20$$

$$\bar{T}_1 - 3\bar{T}_2 - 3\bar{T}_3 - \bar{T}_4 + 2\bar{T}_5 + \bar{T}_6 = -15$$

$$5\bar{T}_1 + 2\bar{T}_2 - \bar{T}_3 - \bar{T}_4 + 2\bar{T}_5 + \bar{T}_6 = -3$$

$$-3\bar{T}_1 - \bar{T}_2 + 2\bar{T}_3 + 3\bar{T}_4 + \bar{T}_5 + 3\bar{T}_6 = 16$$

$$4\bar{T}_1 + 3\bar{T}_2 + \bar{T}_3 - 6\bar{T}_4 - 3\bar{T}_5 - 2\bar{T}_6 = -27$$

$$\begin{bmatrix} 1 & 1 & -2 & 1 & 3 & -1 & 4 \\ 2 & -1 & 1 & 2 & 1 & -3 & 20 \\ 1 & -3 & -3 & -1 & 2 & 1 & -15 \\ 5 & 2 & -1 & -1 & 2 & 1 & -3 \\ -3 & -1 & 2 & 3 & 1 & 3 & 16 \\ 4 & 3 & 1 & 6 & 3 & -2 & -27 \end{bmatrix}$$

$$\begin{bmatrix} 1 & 1 & -2 & 1 & 3 & -1 & 4 \\ (2x^2/1x1) & (-1^{-2}/1x1) & (1^{-2}/1x1) & (2^{-2}/1x1) & (1x^2/1x3) & (-3^{-2}/1x-1) & (20^{-2}/1x4) \\ (1-1x1) & (-3-1x1) & (-3-1x1) & (-1-1x1) & (2-1x3) & (1-1x-1) & (-15-1x4) \\ (5-5x1) & (2-5x1) & (2-5x1) & (-1-5x1) & (2-5x3) & (1-5x-1) & (-3-5x4) \\ (-3+3x1) & (-1+3x1) & (-1+3x1) & (3+3x1) & (1+3x3) & (3+3x-1) & (16+3x4) \\ (4-4x1) & (3-4x1) & (3-4x1) & (-6-4x1) & (-3-4x3) & (-2-4x-1) & (-27-4x4) \end{bmatrix}$$

$$\begin{bmatrix} 1 & 1 & -2 & 1 & 3 & -1 & 4 \\ 0 & -3 & 5 & 0 & -5 & -1 & 12 \\ 0 & -4 & -1 & -2 & -1 & 2 & -19 \\ 0 & -3 & 9 & -6 & -13 & 6 & -23 \\ 0 & -2 & -4 & 6 & 10 & 0 & 28 \\ 0 & -1 & 9 & -10 & -15 & 2 & -43 \end{bmatrix}$$

$$\begin{array}{l}
 \left[\begin{array}{cccccc|c}
 1 & 1 & -2 & 1 & 3 & -1 & 4 \\
 0 & -3 & 5 & 0 & -5 & -1 & 12 \\
 0 & (-4 - \frac{1}{3}x - 5) & (-1 - \frac{1}{3}x - 5) & (-2 - \frac{1}{3}x - 0) & (-7 - \frac{1}{3}x - 5) & (2x - \frac{1}{3}x - 1) & (-19 - \frac{1}{3}x - 12) \\
 0 & (-3 - 1x - 5) & (9 - 1x - 5) & (-6 - 1x - 0) & (-13 - 1x - 5) & (6 - 1x - 1) & (-23 - 23 - 1x - 12) \\
 0 & (2 + \frac{1}{3}x - 3) & (-4 + \frac{1}{3}x - 5) & (6 + \frac{1}{3}x - 0) & (10 + \frac{1}{3}x - 5) & (0 + \frac{1}{3}x - 1) & (28 + \frac{1}{3}x - 12) \\
 0 & (-1 - \frac{1}{3}x - 3) & (9 - \frac{1}{3}x - 5) & (-10 - \frac{1}{3}x - 0) & (-15 - \frac{1}{3}x - 5) & (2x - \frac{1}{3}x - 1) & (-45 - \frac{1}{3}x - 12)
 \end{array} \right]
 \end{array}$$

$$\begin{array}{l}
 \left[\begin{array}{cccccc|c}
 1 & 1 & -2 & 1 & 3 & -1 & 4 \\
 0 & -3 & 5 & 0 & -5 & -1 & 12 \\
 0 & 0 & -7.67 & -2 & 5.67 & 3.33 & -35 \\
 0 & 0 & 4 & -7.04 & -5.04 & 8.74 & -35 \\
 0 & 0 & -0.67 & 6.17 & 6.17 & -0.96 & 36 \\
 0 & 0 & 7.33 & -11.9 & -7.91 & 5.51 & -47
 \end{array} \right]
 \end{array}$$

$$\begin{array}{l}
 \left[\begin{array}{cccccc|c}
 1 & 1 & -2 & 1 & 3 & -1 & 4 \\
 0 & -3 & 5 & 0 & -5 & -1 & 12 \\
 0 & 0 & -7.67 & -2 & 5.67 & 3.33 & -35 \\
 0 & 0 & (4 + \frac{1}{7.67}x - 7.67) & (-6 + \frac{1}{7.67}x - 2) & (-8 + \frac{1}{7.67}x - 5.67) & (7 + \frac{1}{7.67}x - 3.33) & (-35 + \frac{1}{7.67}x - 35) \\
 0 & 0 & (-0.67 - \frac{0.67}{7.67}x - 7.67) & (6 - \frac{0.67}{7.67}x - 2) & (6.67 - \frac{0.67}{7.67}x - 5.67) & (-0.67 - \frac{0.67}{7.67}x - 3.33) & (36 - \frac{0.67}{7.67}x - 35) \\
 0 & 0 & (7.33 + \frac{7.33}{7.67}x - 7.67) & (-10 + \frac{7.33}{7.67}x - 2) & (-13.33 + \frac{7.33}{7.67}x - 5.67) & (2.33 + \frac{7.33}{7.67}x - 3.33) & (-47 + \frac{7.33}{7.67}x - 35)
 \end{array} \right]
 \end{array}$$

$$\begin{array}{l}
 \left[\begin{array}{cccccc|c}
 1 & 1 & -2 & 1 & 3 & -1 & 4 \\
 0 & -3 & 5 & 0 & -5 & -1 & 12 \\
 0 & 0 & -7.67 & -2 & 5.67 & 3.33 & -35 \\
 0 & 0 & 0 & -7.04 & -5.04 & 8.74 & -33.25 \\
 0 & 0 & 0 & 6.17 & 6.17 & -0.96 & 39.06 \\
 0 & 0 & 0 & -11.9 & -7.91 & 5.51 & -80.44
 \end{array} \right]
 \end{array}$$

$$\begin{bmatrix}
 1 & 1 & -2 & 1 & 3 & -1 & 1 & 4 \\
 0 & -3 & 5 & 0 & -5 & -1 & 1 & 12 \\
 0 & 0 & -7.67 & -2 & 5.67 & 3.33 & 1 & -35 \\
 0 & 0 & 0 & -7.04 & -5.04 & 8.74 & 1 & -53.25 \\
 0 & 0 & 0 & (6.17 + \frac{6.17}{7.04} \times -7.04) & (6.17 \times \frac{6.17}{7.04} \times -5.04) & (-0.96 + \frac{6.17}{7.04} \times 8.74) & (39.06 + \frac{6.17}{7.04} \times -53.25) \\
 0 & 0 & 0 & (-11.9 - \frac{11.9}{7} \times -7.04) & (-7.91 - \frac{11.9}{7.04} \times -5.04) & (5.51 - \frac{11.9}{7.04} \times 8.74) & (-80.44 - \frac{11.9}{7.04} \times -53.25)
 \end{bmatrix}$$

$$\begin{bmatrix}
 1 & 1 & -2 & 1 & 3 & -1 & 1 & 4 \\
 0 & -3 & 5 & 0 & -5 & -1 & 1 & 12 \\
 0 & 0 & -7.67 & -2 & 5.67 & 3.33 & 1 & -35 \\
 0 & 0 & 0 & -7.04 & -5.04 & 8.74 & 1 & -53.25 \\
 0 & 0 & 0 & 0 & 1.75 & 6.70 & 1 & -7.61 \\
 0 & 0 & 0 & 0 & 0.61 & -9.26 & 1 & 9.57
 \end{bmatrix}$$

$$\begin{bmatrix}
 -1 & 1 & -2 & 1 & 3 & -1 & 1 & 4 \\
 0 & -3 & 5 & 0 & -5 & -1 & 1 & 12 \\
 0 & 0 & -7.67 & -2 & 5.67 & 3.33 & 1 & -35 \\
 0 & 0 & 0 & -7.04 & -5.04 & 8.74 & 1 & -53.25 \\
 0 & 0 & 0 & 0 & 1.75 & 6.70 & 1 & -7.61 \\
 0 & 0 & 0 & 0 & (0.61 - \frac{0.61}{1.75} \times 1.75) & (-9.26 - \frac{0.61}{1.75} \times 6.70) & (9.57 - \frac{0.61}{1.75} \times -7.61)
 \end{bmatrix}$$

$$\begin{bmatrix}
 1 & 1 & -2 & 1 & 3 & -1 & 1 & 4 \\
 0 & -3 & 5 & 0 & -5 & -1 & 1 & 12 \\
 0 & 0 & -7.67 & -2 & 5.67 & 3.33 & 1 & -35 \\
 0 & 0 & 0 & -7.04 & -5.04 & 8.74 & 1 & -53.25 \\
 0 & 0 & 0 & 0 & 1.75 & 6.70 & 1 & -7.61 \\
 0 & 0 & 0 & 0 & 0 & -11.60 & 12.22
 \end{bmatrix}$$

$$\begin{aligned}
 -11.60 \bar{T}_6 &= 12.22 \\
 \bar{T}_6 &= \frac{12.22}{-11.60} = -1.054
 \end{aligned}$$

$$1.75\bar{T}_5 + 6.70\bar{T}_6 = -7.61$$

$$1.75\bar{T}_5 + 6.70(-1.05) = -7.61$$

$$\bar{T}_5 = \frac{-7.61 + 7.035}{1.75} = -0.32$$

$$-7.04\bar{T}_4 - 5.04\bar{T}_5 + 8.74\bar{T}_6 = -53.25$$

$$-7.04\bar{T}_4 - 5.04(-0.32) + 8.74(-1.05) = -53.25$$

$$-7.04\bar{T}_4 - 7.56 = -53.25$$

$$\bar{T}_4 = \frac{-53.25 + 7.56}{-7.04} = 6.44$$

~~\bar{T}_6~~

$$-7.64\bar{T}_3 - 2\bar{T}_4 + 5.67\bar{T}_5 + 3.33\bar{T}_6 = -35$$

$$-7.64\bar{T}_3 - 2(6.44) + 5.67(-0.32) + 3.33(-1.05) = -35$$

$$\bar{T}_3 = \frac{-35 + 18.29}{-7.64} = 2.18$$

$$-3\bar{T}_2 + 5\bar{T}_3 + 0\bar{T}_4 - 5\bar{T}_5 - \bar{T}_6 = 12$$

$$-3\bar{T}_2 + 5(2.18) + 0(6.44) - 5(-0.32) - 1(-1.05) = 12$$

$$\bar{T}_2 = \frac{12 - 13.55}{-3} = 0.51$$

$$\bar{T}_1 + \bar{T}_2 - 2\bar{T}_3 + \bar{T}_4 + 5\bar{T}_5 - \bar{T}_6 = 4$$

$$\bar{T}_1 + 0.51 - 2(2.18) + 6.44 + 3(-0.32) - 1.05 = 4$$

$$\bar{T}_1 = 4 - 0.65$$

$$= 3.37$$

$$\bar{T}_1 = 3.37, \bar{T}_2 = 0.51, \bar{T}_3 = 2.18, \bar{T}_4 = 6.44, \bar{T}_5 = -0.32, \bar{T}_6 = -1.05$$