ARCH 324 - Structures 2, Winter 2009

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FBD I

\[ M_\ell = G^K(G') = 36^K \]
\[ V = G^K \]
\[ R_\ell = \frac{M}{L} = \frac{36}{24} = 1.5^K \]
\[ \theta_\ell = \frac{M_L}{G} = \frac{36(24)}{6} = -144 \]

FBD II

\[ \theta_R = \frac{5PL^2}{8L} = +3.20 \]

FBD III

\[ \theta_R = \frac{WL^2}{24} = +5.76 \]

\[ M_\ell = \frac{M_L}{3} = M_8 \]
\[ R_\ell = \frac{M}{L} = \frac{94}{24} = 3.917^K \]
\[ \theta_\ell = 0 = -144 + 320 + 576 - M_8 \]
\[ M_8 = 752, \quad M = 94^K \]

\[ R_\ell = -1.5 + 6 + 12 + 3.917 = 20.42^K \]
\[ R_L = (1.5 + 6) + 3 + 12 - 3.917 = 18.58^K \]

APPLIED LOAD
\[ R_{TOTAL} = 39.00^K \]

-6 - 9 - 24 = -39 < balanced