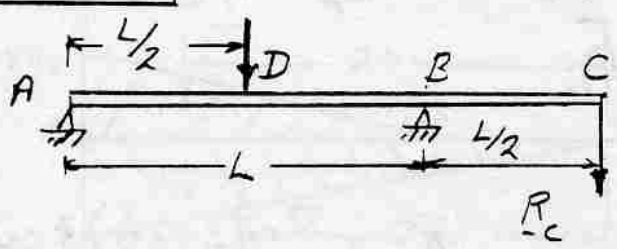
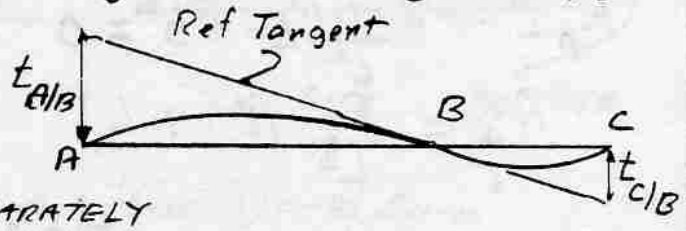
9.90



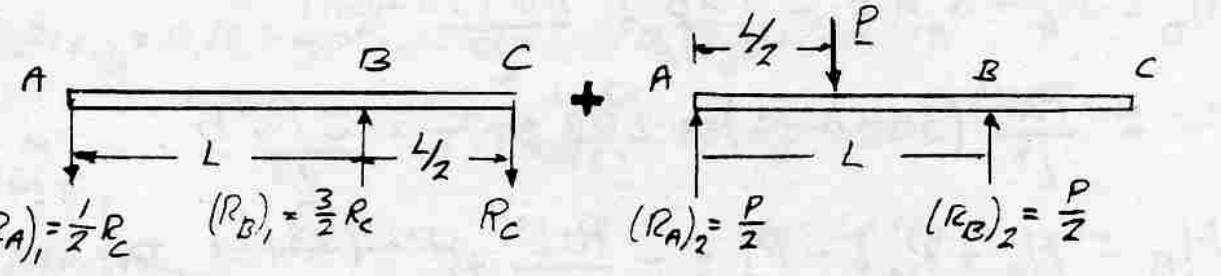
CONSIDER $\underline{R}_C$ AS REDUNDANT

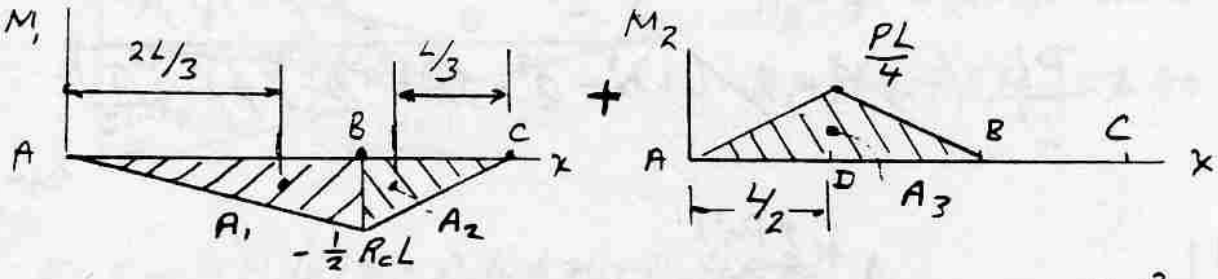
WITH CONDITION,

$y_C = 0$ or $t_{A/B} = -2t_{C/B}$



TWO LOADINGS HANDLED SEPARATELY





$$EI\,t_{A/B} = A_1\left(\frac{2L}{3}\right) + A_3\left(\frac{L}{2}\right) = \frac{1}{2}\left(-\frac{1}{2}R_CL\right)L\left(\frac{2L}{3}\right) + \frac{1}{2}\left(\frac{PL}{4}\right)L\left(\frac{L}{2}\right) = -\frac{R_CL^3}{6} + \frac{PL^3}{16}$$

$$EI\,t_{C/B} = A_2\left(\frac{L}{3}\right) = \frac{1}{2}\left(-\frac{1}{2}R_CL\right)\frac{L}{2}\left(\frac{L}{3}\right) = -\frac{R_CL^3}{24}$$

$t_{A/B} = -2t_{C/B}$:

$$-\frac{R_CL^3}{6} + \frac{PL^3}{16} = -2\left(-\frac{PL^3}{24}\right)$$

$$R_C\left(-\frac{1}{6} - \frac{1}{12}\right) = -\frac{1}{16}P \qquad R_C = \frac{P}{4}$$

$$\underline{R}_C = \frac{1}{4}P\downarrow$$

FROM FREE-BODY DIAGRAMS

$$R_A = -\frac{1}{2}R_C + \frac{P}{2} = -\frac{1}{2}\left(\frac{P}{4}\right) + \frac{P}{2} = +\frac{3}{8}P$$

$$\underline{R}_A = \frac{3}{8}P\uparrow$$

$$R_B = \frac{3}{2}R_C + \frac{P}{2} = \frac{3}{2}\left(\frac{P}{4}\right) + \frac{P}{2} = +\frac{7}{8}P$$

$$\underline{R}_B = \frac{7}{8}P\uparrow$$