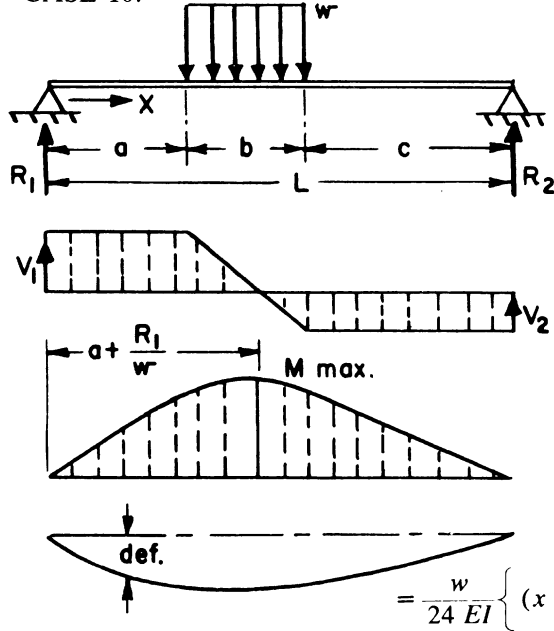


CASE 10.



Partially distributed uniform load

Total load = wb

Reactions: $R_1 = \frac{wb}{2L} (2c + b)$

$R_2 = \frac{wb}{2L} (2a + b)$

Shear forces: $V_1 = +R_1$; $V_2 = -R_2$
 $V = R_1 - w(x - a), a \leq x \leq a + b$

Maximum bending moment

$= \frac{wb}{8L^2} (2c + b) [4aL + b(2c + b)], x = a + \frac{R_1}{w}$

Deflection:

$= \frac{w}{24EI} \left[\frac{b(b + 2c)x}{L} \right] \left[-2x^2 + 2a(2L - a) + b(b + 2c) \right]$
 for $0 \leq x \leq a$

$= \frac{w}{24EI} \left\{ (x - a)^4 + \left[\frac{b(b + 2c)x}{L} \right] \left[-2x^2 + 2a(2L - a) + b(b + 2c) \right] \right\}$
 for $a \leq x \leq a + b$