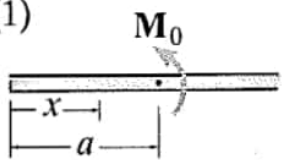
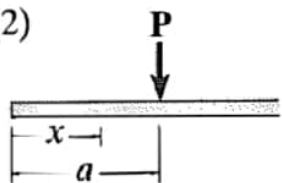
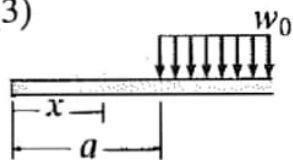
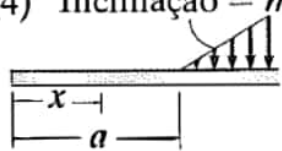
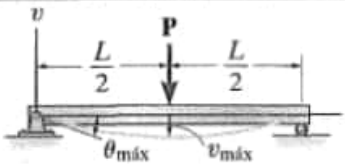
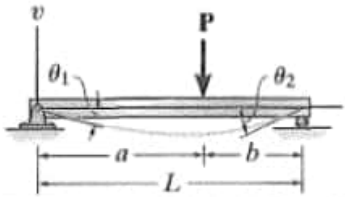

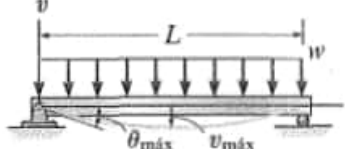
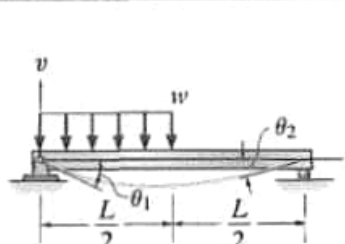
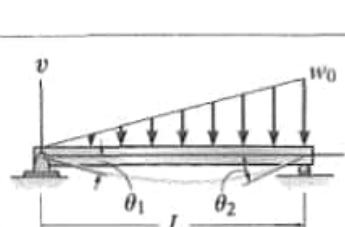
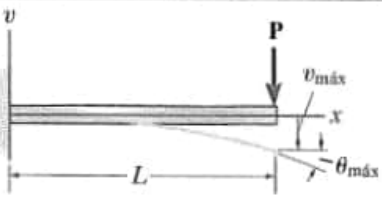
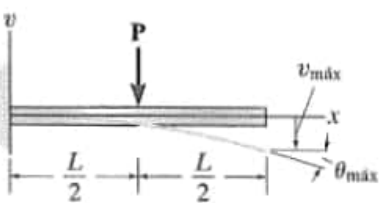
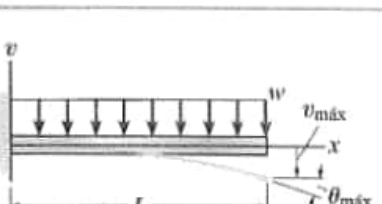
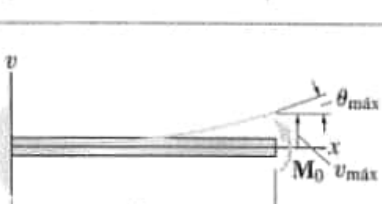
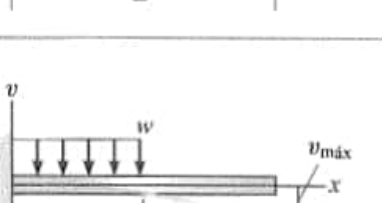
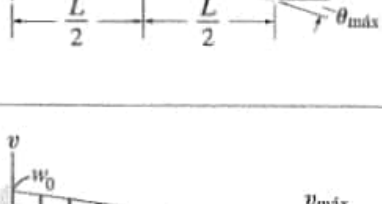


TABELA 12.2

Carga	Função da carga $w = w(x)$	Cisalhamento $V = -\int w(x)dx$	Momento $M = \int Vdx$
(1) 	$w = M_0 \langle x-a \rangle^{-2}$	$V = -M_0 \langle x-a \rangle^{-1}$	$M = -M_0 \langle x-a \rangle^0$
(2) 	$w = P \langle x-a \rangle^{-1}$	$V = -P \langle x-a \rangle^0$	$M = -P \langle x-a \rangle^1$
(3) 	$w = w_0 \langle x-a \rangle^0$	$V = -w_0 \langle x-a \rangle^1$	$M = -\frac{w_0}{2} \langle x-a \rangle^2$
(4) Inclinação = m 	$w = m \langle x-a \rangle^1$	$V = \frac{-m}{2} \langle x-a \rangle^2$	$M = \frac{-m}{6} \langle x-a \rangle^3$

Inclinações e deslocamentos de vigas simplesmente apoiadas			
Viga	Inclinação	Deflexão	Curva da linha elástica
	$\theta_{\max} = \frac{-PL^2}{16EI}$	$v_{\max} = \frac{-PL^3}{48EI}$	$v = \frac{-Px}{48EI}(3L^2 - 4x^2)$ $0 \leq x \leq L/2$
	$\theta_1 = \frac{-Pab(L+b)}{6EIL}$ $\theta_2 = \frac{Pab(L+a)}{6EIL}$	$v \Big _{x=a} = \frac{-Pba}{6EIL}(L^2 - b^2 - a^2)$	$v = \frac{-Pbx}{6EIL}(L^2 - b^2 - x^2)$ $0 \leq x \leq a$
	$\theta_1 = \frac{-M_0L}{3EI}$ $\theta_2 = \frac{M_0L}{6EI}$	$v_{\max} = \frac{-M_0L^2}{\sqrt{243EI}}$	$v = \frac{-M_0x}{6EIL}(x^2 - 3Lx + 2L^2)$
	$\theta_{\max} = \frac{-wL^3}{24EI}$	$v_{\max} = \frac{-5wL^4}{384EI}$	$v = \frac{-wx}{24EI}(x^3 - 2Lx^2 + L^3)$
	$\theta_1 = \frac{-3wL^3}{128EI}$ $\theta_2 = \frac{7wL^3}{384EI}$	$v \Big _{x=L/2} = \frac{-5wL^4}{768EI}$ $v_{\max} = -0,006563 \frac{wL^4}{EI}$ em $x = 0,4598L$	$v = \frac{-wx}{384EI}(16x^3 - 24Lx^2 + 9L^3)$ $0 \leq x \leq L/2$ $v = \frac{-wL}{384EI}(8x^3 - 24Lx^2 + 17L^2x - L^3)$ $L/2 \leq x < L$
	$\theta_1 = \frac{-7w_0L^3}{360EI}$ $\theta_2 = \frac{w_0L^3}{45EI}$	$v_{\max} = -0,00652 \frac{w_0L^4}{EI}$ em $x = 0,5193L$	$v = \frac{-w_0x}{360EIL}(3x^4 - 10L^2x^2 + 7L^4)$

Inclinações e deflexões de vigas em balanço			
Viga	Inclinação	Deflexão	Curva da linha elástica
	$\theta_{\text{máx}} = \frac{-PL^2}{2EI}$	$v_{\text{máx}} = \frac{-PL^3}{3EI}$	$v = \frac{-Px^2}{6EI}(3L - x)$
	$\theta_{\text{máx}} = \frac{-PL^2}{8EI}$	$v_{\text{máx}} = \frac{-5PL^3}{48EI}$	$v = \frac{-Px^2}{6EI}\left(\frac{3}{2}L - x\right) \quad 0 \leq x \leq L/2$ $v = \frac{-PL^2}{24EI}\left(3x - \frac{1}{2}L\right) \quad L/2 \leq x \leq L$
	$\theta_{\text{máx}} = \frac{-wL^3}{6EI}$	$v_{\text{máx}} = \frac{-wL^4}{8EI}$	$v = \frac{-wx^2}{24EI}(x^2 - 4Lx + 6L^2)$
	$\theta_{\text{máx}} = \frac{M_0L}{EI}$	$v_{\text{máx}} = \frac{M_0L^2}{2EI}$	$v = \frac{M_0x^2}{2EI}$
	$\theta_{\text{máx}} = \frac{-wL^3}{48EI}$	$v_{\text{máx}} = \frac{-7wL^4}{384EI}$	$v = \frac{-wx^2}{24EI}\left(x^2 - 2Lx + \frac{3}{2}L^2\right) \quad 0 \leq x \leq L/2$ $v = \frac{-wL^3}{192EI}(4x - L/2) \quad L/2 \leq x \leq L$
	$\theta_{\text{máx}} = \frac{-w_0L^3}{24EI}$	$v_{\text{máx}} = \frac{-w_0L^4}{30EI}$	$v = \frac{-w_0x^2}{120EIL}(10L^3 - 10L^2x + 5Lx^2 - x^3)$