

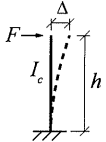
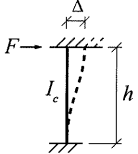
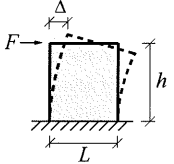
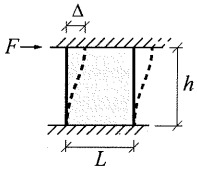
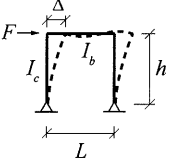
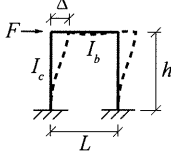
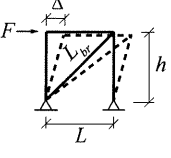
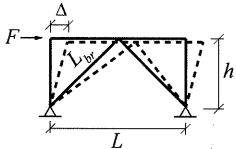
Element	Deflection, Δ	Stiffness, k
Cantilever Column 	$\Delta = \frac{Fh^3}{3EI}$	$k = \frac{3EI}{h^3}$
Fixed-Fixed Column 	$\Delta = \frac{Fh^3}{12EI}$	$k = \frac{12EI}{h^3}$
Cantilever Wall 	$\Delta = \frac{Fh^3}{3EI} + \frac{1.2Fh}{AG}$	$k = \frac{1}{\frac{h^3}{3EI} + \frac{1.2h}{AG}}$
Fixed-Fixed Wall 	$\Delta = \frac{Fh^3}{12EI} + \frac{1.2Fh}{AG}$	$k = \frac{1}{\frac{h^3}{12EI} + \frac{1.2h}{AG}}$
Pinned Moment Frame 	$\Delta = \frac{Fh^2}{6E} \left(\frac{h}{I_c} + \frac{L}{2I_b} \right)$	$k = \frac{6E}{h^2} \frac{1}{\frac{h}{I_c} + \frac{L}{2I_b}}$
Fixed Moment Frame 	$\Delta = F \left(\frac{\frac{4I_c}{h} + \frac{6I_b}{L}}{\frac{24EI_c^2}{h^4} + \frac{144EI_cI_b}{h^3L}} \right)$	$k = \frac{\frac{24EI_c^2}{h^4} + \frac{144EI_cI_b}{h^3L}}{\frac{4I_c}{h} + \frac{6I_b}{L}}$
Single Braced Bay 	$\Delta = \frac{FL_{br}}{A_{br}E} \left(\frac{L_{br}}{L} \right)^2$	$k = \frac{A_{br}E}{L_{br}} \left(\frac{L}{L_{br}} \right)^2$
Double Braced Bay 	$\Delta = \frac{2FL_{br}}{A_{br}E} \left(\frac{L_{br}}{L} \right)^2$	$k = \frac{A_{br}E}{2L_{br}} \left(\frac{L}{L_{br}} \right)^2$

Figure 2.7 Formulas for computing lateral deformations and stiffness of various simple systems.