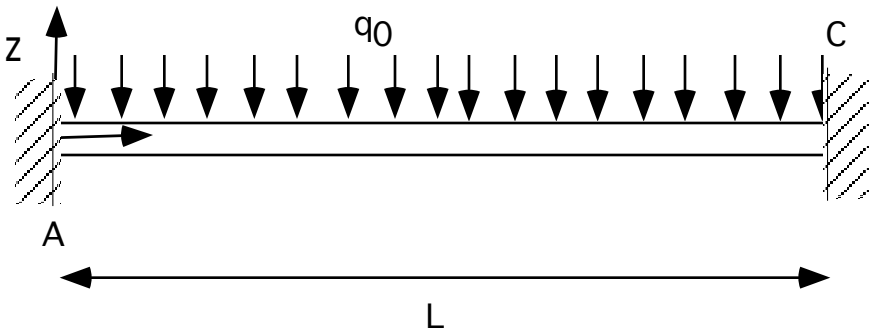
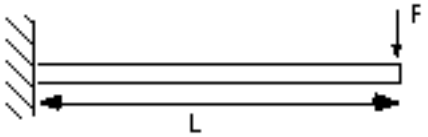
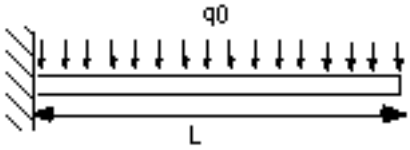
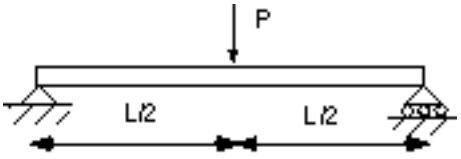
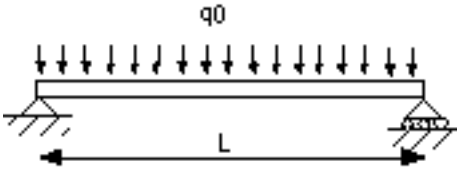
Problem M9

A beam of length L and flexural rigidity EI is clamped at each end. The beam has a continuous load of magnitude q_o applied along the beam. Using the "standard solutions" below, or by other means, solve for the reactions at A and C.



Standard solutions for deflections of beams under commonly encountered loading

Configuration	End slope dw/dx (x=L)	End deflection, w(L)	Central deflection, w(L/2)
	$\frac{ML}{EI}$	$\frac{ML^2}{2EI}$	
	$\frac{PL^2}{2EI}$	$\frac{PL^3}{3EI}$	
	$\frac{q_0L^3}{6EI}$	$\frac{q_0L^4}{8EI}$	
	$\frac{PL^2}{16EI}$		$\frac{PL^3}{48EI}$
	$\frac{q_0L^3}{24EI}$		$\frac{q_0L^4}{384EI}$