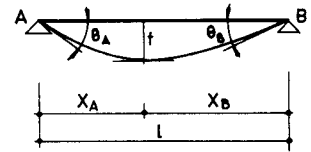
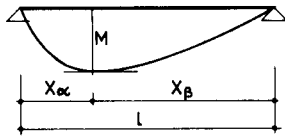


VIGA APOYADA

DISTINTAS HIPOTESIS DE CARGA

F, q y segmentos en valor absoluto.

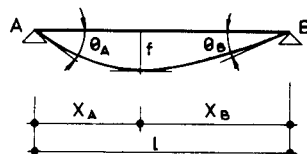
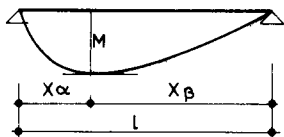


SOLICITACION	DIAGRAMA DE MOMENTOS FLECTORES MOMENTO MAXIMO	DIAGRAMA DE ESFUERZOS CORTANTES REACCIONES EN APOYOS	FLECHAS MAXIMAS ANGULOS DE GIRO EXTREMOS
	$M = \frac{F a b}{l}$	$R_A = \frac{F \cdot b}{l}$ $R_B = \frac{F \cdot a}{l}$	$a < b, x_a = \left[\frac{b(l+a)}{3} \right]^{\frac{1}{2}}, f = \frac{F \cdot a}{3! EI} \left[\frac{b(l+a)}{3} \right]^{\frac{3}{2}}$ $a > b, x_a = \left[\frac{a(l+b)}{3} \right]^{\frac{1}{2}}, f = \frac{F \cdot b}{3! EI} \left[\frac{a(l+b)}{3} \right]^{\frac{3}{2}}$ $\theta_A = \frac{F a b (l+b)}{6! EI}, \theta_B = \frac{F a b (l+a)}{6! EI}$
	$M = \frac{F l}{4}$	$R_A = R_B = \frac{F}{2}$	$x_A = x_B = \frac{l}{2}, f = \frac{F l^3}{48 EI}$ $\theta_A = \theta_B = \frac{F l^2}{16 EI}$
	$M = F a$	$R_A = R_B = F$	$x_A = x_B = \frac{l}{2}, f = \frac{F a}{24 EI} (3l^2 - 4a^2)$ $\theta_A = \theta_B = \frac{F a (l-a)}{2 EI}$
	$M = \frac{F l}{2}$	$R_A = R_B = \frac{3F}{2}$	$x_A = x_B = \frac{l}{2}, f = \frac{19}{384} \cdot \frac{F}{EI} l^3$ $\theta_A = \theta_B = \frac{5 F l^2}{32 EI}$

VIGA APOYADA

DISTINTAS HIPOTESIS DE CARGA

F, q y segmentos en valor absoluto

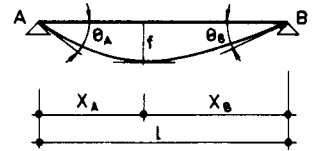
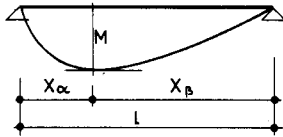


SOLICITACION	DIAGRAMA DE MOMENTOS FLECTORES MOMENTO MAXIMO	DIAGRAMA DE ESFUERZOS CORTANTES REACCIONES EN APOYOS	FLECHAS MAXIMAS ANGULOS DE GIRO EXTREMOS
<p>$n = \frac{l}{a}$</p>	<p>$n = 2k, \quad M = \frac{n}{8} Fl$</p> <p>$n = 2k+1, \quad M = \frac{n^2-1}{8n} Fl$</p>	<p>$R_A = R_B = \frac{n-1}{2} F$</p>	<p>$x_A = x_B = \frac{l}{2} \begin{cases} n=2k, \quad f = \frac{5n^2-4}{384n} \cdot \frac{Fl^3}{EI} \\ n=2k+1, \quad f = \frac{(5n^2+1)(n^2-1)}{384n^3} \cdot \frac{Fl^3}{EI} \end{cases}$</p> <p>$\theta_A = \theta_B = \frac{n^2-1}{24n} \cdot \frac{Fl^2}{EI}$</p>
<p>$n = \frac{l}{a}$</p>	<p>$n = 2k, \quad M = \frac{n}{8} Fl$</p> <p>$n = 2k+1, \quad M = \frac{n^2+1}{8n} Fl$</p>	<p>$R_A = R_B = \frac{n}{2} F$</p>	<p>$x_A = x_B = \frac{l}{2} \begin{cases} n=2k, \quad f = \frac{-n^4+6n^3+2n^2+4n-4}{384n^2} \cdot \frac{Fl^3}{EI} \\ n=2k+1, \quad f = \frac{5n^4+2n^2+1}{384n^3} \cdot \frac{Fl^3}{EI} \end{cases}$</p> <p>$\theta_A = \theta_B = \frac{2n^2+1}{48n} \cdot \frac{Fl^2}{EI}$</p>
	<p>$M = \frac{1}{8} ql^2$</p>	<p>$R_A = R_B = \frac{ql}{2}$</p>	<p>$x_A = x_B = \frac{l}{2}, \quad f = \frac{5}{384} \cdot \frac{ql^4}{EI}$</p> <p>$\theta_A = \theta_B = \frac{ql^3}{24EI}$</p>
	<p>$x_\alpha = \frac{a(l+b)}{2l}, \quad M = \frac{qa^2(l+b)^2}{8l^2}$</p>	<p>$R_A = \frac{qa(l+b)}{2l}$</p> <p>$R_B = \frac{qa^2}{2l}$</p>	<p>$a < 0.4531l, \quad x_B = \left[\frac{2l^2-a^2}{6} \right]^{\frac{1}{2}}, \quad f = \frac{qa^2}{6} \left[\frac{2l^2-a^2}{6} \right]^{\frac{3}{2}}$</p> <p>$a > 0.4531l, \quad x_B = \frac{58.575 \cdot l - 8.575 \cdot a}{100}$</p> <p>$f = \frac{ql^4}{10^3 EI} (13.5734 \frac{a}{l} - 0.5526)$</p> <p>$\theta_A = \frac{qa^2}{24EI} (2 - \frac{a}{l})^2, \quad \theta_B = \frac{qa^2}{24EI} (2 - \frac{a^2}{l^2})$</p>

VIGA APOYADA

DISTINTAS HIPOTESIS DE CARGA

q y segmentos en
valor absoluto

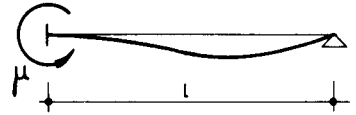


SOLICITACION	DIAGRAMA DE MOMENTOS FLECTORES MOMENTO MAXIMO	DIAGRAMA DE ESFUERZOS CORTANTES REACCIONES EN APOYOS	FLECHAS MAXIMAS ANGULOS DE GIRO EXTREMOS
	$M = \frac{qc(l-c)}{2}$	$R_A = R_B = qc$	$x_A = x_B = \frac{l}{2} \quad f = \frac{qc l^3}{24EI} \left[1 - \frac{c^2}{l^2} \left(2 - \frac{c}{l} \right) \right]$ $\theta_A = \theta_B = \frac{qc l^2}{24EI} \left(3 - 4 \frac{c^2}{l^2} \right)$
	$x_\alpha = a+c - \frac{2ac}{l} \quad M = 2qac \left(\frac{b-c}{l} + \frac{a}{l^2} \right)$	$R_A = \frac{2qc(l-a)}{l}$ $R_B = \frac{2qc(l-b)}{l}$	$\theta_A = \frac{qbc l}{3EI} \left(1 - \frac{b^2}{l^2} - \frac{c^2}{l^2} \right) \quad \theta_B = \frac{qac l}{3EI} \left(1 - \frac{a^2}{l^2} - \frac{c^2}{l^2} \right)$
	$M = \frac{ql^2}{12}$	$R_A = R_B = \frac{ql}{4}$	$x_A = x_B = \frac{l}{2} \quad f = \frac{ql^4}{120EI}$ $\theta_A = \theta_B = \frac{5ql^3}{196EI}$
	$x_\alpha = \frac{l}{\sqrt{3}} \quad M = \frac{ql^2}{9\sqrt{3}}$	$R_A = \frac{ql}{6}$ $R_B = \frac{ql}{3}$	$x_A = 0.5193 l \quad f = \frac{6.522}{10^3} \frac{ql^4}{EI}$ $\theta_A = \frac{7ql^3}{360EI} \quad \theta_B = \frac{ql^3}{45EI}$

VIGA APOYADA EMPOTRADA

DISTINTAS HIPOTESIS DE CARGA

F, q y segmentos, en
valor absoluto.



SOLICITACION	MOMENTOS DE EMPOTRAMIENTO PERFECTO	REACCIONES EN LOS APOYOS	DIAGRAMA DE MOMENTOS FLECTORES
	$\mu = \frac{F a b (l + b)}{2 l^2}$	$R_A = \frac{F b}{2 l} \left(3 - \frac{b^2}{l^2} \right)$ $R_B = \frac{F a^2}{2 l^2} \left(3 - \frac{a}{l} \right)$	
	$\mu = \frac{3}{16} F l$	$R_A = \frac{11}{16} F$ $R_B = \frac{5}{16} F$	
	$\mu = \frac{3 F a (l - a)}{2 l}$	$R_A = \frac{F}{2} \left[2 + 3 \frac{a}{l} \left(1 - \frac{a}{l} \right) \right]$ $R_B = \frac{F}{2} \left[2 - 3 \frac{a}{l} \left(1 - \frac{a}{l} \right) \right]$	
	$\mu = \frac{15}{32} F l$	$R_A = \frac{63}{32} F$ $R_B = \frac{33}{32} F$	

VIGA EMPOTRADA

DISTINTAS HIPOTESIS DE CARGA

F, q y segmentos, en
valor absoluto.

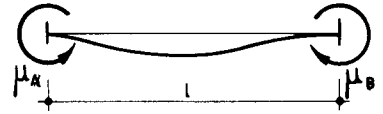


SOLICITACION	MOMENTOS DE EMPOTRAMIENTO PERFECTO	REACCIONES EN LOS APOYOS	DIAGRAMA DE MOMENTOS FLECTORES
	$\mu_A = \frac{F a b^2}{l^2}$ $\mu_B = -\frac{F a^2 b}{l^2}$	$R_A = F \frac{b^2}{l^2} (3 - 2 \frac{b}{l})$ $R_B = F \frac{a^2}{l^2} (3 - 2 \frac{a}{l})$	
	$\mu_A = \frac{F l}{8}$ $\mu_B = -\frac{F l}{8}$	$R_A = \frac{F}{2}$ $R_B = \frac{F}{2}$	
	$\mu_A = \frac{F a (l-a)}{l}$ $\mu_B = -\frac{F a (l-a)}{l}$	$R_A = F$ $R_B = F$	
	$\mu_A = \frac{5 F l}{16}$ $\mu_B = -\frac{5 F l}{16}$	$R_A = \frac{3}{2} F$ $R_B = \frac{3}{2} F$	

VIGA EMPOTRADA

DISTINTAS HIPOTESIS DE CARGA

F, q y segmentos, en
valor absoluto.

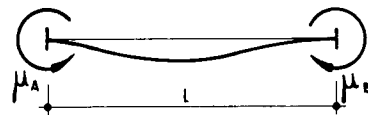


SOLICITACION	MOMENTOS DE EMPOTRAMIENTO PERFECTO	REACCIONES EN LOS APOYOS	DIAGRAMA DE MOMENTOS FLECTORES
<p>nº de fuerzas = $n-1$</p>	$\mu_A = \frac{Fl(n^2-1)}{12n}$ $\mu_B = -\frac{Fl(n^2-1)}{12n}$	$R_A = \frac{n-1}{2}F$ $R_B = \frac{n-1}{2}F$	
<p>nº de fuerzas = n</p>	$\mu_A = \frac{Fl(2n^2+1)}{24n}$ $\mu_B = -\frac{Fl(2n^2+1)}{24n}$	$R_A = \frac{n}{2}F$ $R_B = \frac{n}{2}F$	
	$\mu_A = \frac{ql^2}{12}$ $\mu_B = -\frac{ql^2}{12}$	$R_A = \frac{ql}{2}$ $R_B = \frac{ql}{2}$	
	$\mu_A = \frac{qa^2}{12} \left[6 - \frac{a}{l} \left(8 - 3 \frac{a}{l} \right) \right]$ $\mu_B = -\frac{qa^2}{12l} \left(4 - 3 \frac{a}{l} \right)$	$R_A = \frac{qa}{2} \left[2 - \frac{a^2}{l^2} \left(2 - \frac{a}{l} \right) \right]$ $R_B = \frac{qa^3}{2l^2} \left(2 - \frac{a}{l} \right)$	

VIGA EMPOTRADA

DISTINTAS HIPOTESIS DE CARGA

F, q y segmentos, en
valor absoluto.

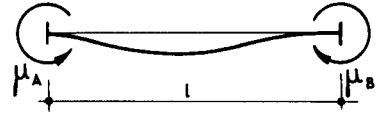


SOLICITACION	MOMENTOS DE EMPOTRAMIENTO PERFECTO	REACCIONES EN LOS APOYOS	DIAGRAMA DE MOMENTOS FLECTORES
	$\mu_A = \frac{qc}{12l} (3l^2 - 4c^2)$ $\mu_B = -\frac{qc}{12l} (3l^2 - 4c^2)$	$R_A = qc$ $R_B = qc$	
	$\mu_A = 2qc \left(a \frac{b^2}{l^2} - \frac{c^2}{l^2} \frac{3b-l}{3} \right)$ $\mu_B = -2qc \left(b \frac{a^2}{l^2} - \frac{c^2}{l^2} \frac{3a-l}{3} \right)$	$R_A = 2qc \left[1 - 3 \frac{a^2}{l^2} \frac{c^2}{l^2} + 2 \frac{a}{l} \left(\frac{a^2}{l^2} \frac{c^2}{l^2} \right) \right]$ $R_B = 2qc \left[3 \frac{a^2}{l^2} + \frac{c^2}{l^2} - 2 \frac{a}{l} \left(\frac{a^2}{l^2} \frac{c^2}{l^2} \right) \right]$	
	$\mu_A = \frac{5}{96} ql^2$ $\mu_B = -\frac{5}{96} ql^2$	$R_A = \frac{ql}{4}$ $R_B = \frac{ql}{4}$	
	$\mu_A = \frac{ql^2}{30}$ $\mu_B = -\frac{ql^2}{20}$	$R_A = \frac{3}{20} ql$ $R_B = \frac{7}{20} ql$	

VIGA EMPOTRADA

DISTINTAS HIPOTESIS DE CARGA

F, q y segmentos, en
valor absoluto.

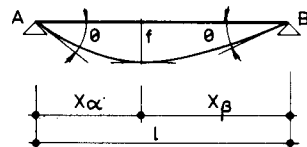
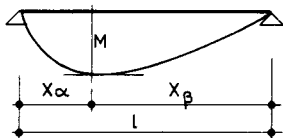


SOLICITACION	MOMENTOS DE EMPOTRAMIENTO PERFECTO	REACCIONES EN LOS APOYOS	DIAGRAMA DE MOMENTOS FLECTORES
	$\mu_A = \frac{qa^2}{30} \left[10 - \frac{a}{l} (15 - 6 \frac{a}{l}) \right]$ $\mu_B = -\frac{qa^3}{20l} (5 - 4 \frac{a}{l})$	$R_A = \frac{qa}{20} \left[10 - \frac{a^2}{l^2} (15 - 8 \frac{a}{l}) \right]$ $R_B = \frac{qa^3}{20l^2} (15 - 8 \frac{a}{l})$	
	$\mu_A = \frac{qb^3}{60l} (5 - 3 \frac{b}{l})$ $\mu_B = -\frac{qb^2}{60} \left[3 \frac{b^2}{l^2} + 10 \frac{a}{l} \right]$	$R_A = \frac{qb^3}{20l^2} (5 - 2 \frac{b}{l})$ $R_B = \frac{qb}{20} \left[10 - \frac{b^2}{l^2} (5 - 2 \frac{b}{l}) \right]$	
<p>carga parabólica</p>	$\mu_A = \frac{ql^2}{15}$ $\mu_B = -\frac{ql^2}{15}$	$R_A = \frac{ql}{3}$ $R_B = \frac{ql}{3}$	
	$\mu_A = m \frac{b}{l} (2 - 3 \frac{b}{l})$ $\mu_B = m \frac{a}{l} (2 - 3 \frac{a}{l})$	$R_A = m \frac{6ab}{l^3}$ $R_B = -m \frac{6ab}{l^3}$	

VIGA APOYADA

DISTINTAS HIPOTESIS DE CARGA

q y segmentos en
valor absoluto

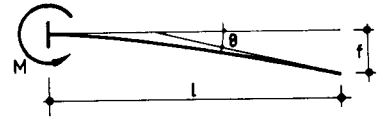


SOLICITACION	DIAGRAMA DE MOMENTOS FLECTORES MOMENTO MAXIMO	DIAGRAMA DE ESFUERZOS CORTANTES REACCIONES EN APOYOS	FLECHAS MAXIMAS ANGULOS DE GIRO EXTREMOS
	$x_{\alpha} = a \left[\frac{3L-2a}{3L} \right]^{\frac{1}{2}} \quad M = \frac{q a^2}{3} \left[\frac{3L-2a}{3L} \right]^{\frac{3}{2}}$ 	$R_A = \frac{q a (3L-2a)}{6l}$ $R_B = \frac{q a^2}{3l}$ 	$a < 0.4607l \quad x_A = \left[\frac{5l^2-3a^2}{15} \right]^{\frac{1}{2}} \quad f = \frac{q a^2}{9EI} \left[\frac{5l^2-3a^2}{15} \right]^{\frac{3}{2}}$ $a > 0.4607l \quad x_A = (1.593 \frac{a}{l} - 0.0737) l$ $f = \frac{q l^4}{10^3 EI} (4.117 + 2.405 \frac{a}{l})$ $\theta_A = \frac{(12a^2-45al+40l^2) q a^2}{360 EI l} \quad \theta_B = \frac{(5l^2-3a^2) q a^2}{90 EI l}$
	$x_{\beta} = b \left(1 - \sqrt{\frac{b}{3l}} \right) \quad M = \frac{q b^2}{6} \left[\frac{a}{l} + 2 \left(\frac{b}{3l} \right)^{\frac{3}{2}} \right]$ 	$R_A = \frac{q b^2}{6l}$ $R_B = \frac{q b (3l-b)}{6l}$ 	$b < 0.4396l \quad x_A = \left[\frac{10l^2-3b^2}{30} \right]^{\frac{1}{2}} \quad f = \frac{q b^2}{18EI} \left[\frac{10l^2-3b^2}{30} \right]^{\frac{3}{2}}$ $b > 0.4396l \quad x_A = (1.2527 - 0.7334 \frac{b}{l}) l$ $f = \frac{q l^4}{10^3 EI} (8.267 \frac{b}{l} - 1.745)$ $\theta_A = \frac{(10l^2-3b^2) q b^2}{360 EI l} \quad \theta_B = \frac{(20l^2-15bl+3b^2) q b^2}{360 EI l}$
c. parabólica 	$M = \frac{5}{48} q l^2$ 	$R_A = R_B = \frac{q l}{3}$ 	$x_A = x_B = \frac{l}{2} \quad f = \frac{61 q l^4}{5760 EI}$ $\theta_A = \theta_B = \frac{q l^3}{30 EI}$
	$a < b \quad M = \frac{m b}{l}$ $a > b \quad M = \frac{m a}{l}$ 	$R_A = -R_B = \frac{m}{l}$ 	$a < b \quad x_A = l \left[\frac{l^2-3a^2}{3} \right]^{\frac{1}{2}} \quad f = \frac{m}{3EI} \left[\frac{l^2-3a^2}{3} \right]^{\frac{3}{2}}$ $b < a \quad x_B = l \left[\frac{l^2-3b^2}{3} \right]^{\frac{1}{2}} \quad f = \frac{m}{3EI} \left[\frac{l^2-3b^2}{3} \right]^{\frac{3}{2}}$ $\theta_A = \frac{m(l^2-3b^2)}{6EI l} \quad \theta_B = \frac{m(l^2-3a^2)}{6EI l}$

VIGA EN VOLADIZO

DISTINTAS HIPOTESIS DE CARGA

F, q y segmentos, en
valor absoluto

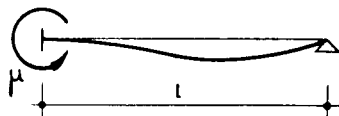


SOLICITACION	DIAGRAMA DE MOMENTOS FLECTORES MOMENTO MAXIMO	DIAGRAMA DE ESFUERZOS CORTANTES REACCION EN APOYO	FLECHA MAXIMA ANGULO DE GIRO EXTREMO
	$M = 2qca$ 	$R = 2qc$ 	$f = \frac{qca^2}{3EI} \left[l \left(3 + \frac{c^2}{a^2} \right) - a \left(1 + \frac{c^2}{a^2} \right) \right]$ $\theta = \frac{q}{6EI} \left[a^3 - 15c^3 + 3ac(a+c) \right]$
	$M = \frac{1}{6}ql^2$ 	$R = \frac{1}{2}ql$ 	$f = \frac{ql^4}{30EI}$ $\theta = \frac{ql^3}{24EI}$
	$M = \frac{1}{6}ql^2$ 	$R = \frac{1}{2}ql$ 	$f = \frac{qa^3}{120EI} (5l - a)$ $\theta = \frac{qa^3}{24EI}$
	$M = m$ 	$R = 0$ 	$f = \frac{ma}{2EI} (2l - a)$ $\theta = \frac{ma}{EI}$

VIGA APOYADA EMPOTRADA

DISTINTAS HIPÓTESIS DE CARGA

F, q y segmentos, en
valor absoluto

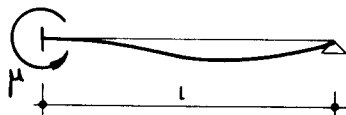


SOLICITACION	MOMENTOS DE EMPOTRAMIENTO PERFECTO	REACCIONES EN LOS APOYOS	DIAGRAMA DE MOMENTOS FLECTORES
	$\mu = \frac{q b^2}{8 l^2} (2 l^2 - b^2)$	$R_A = \frac{q b^2}{8 l} \left(6 - \frac{b^2}{l^2} \right)$ $R_B = \frac{q b}{8} \left[8 - \frac{b}{l} \left(6 - \frac{b^2}{l^2} \right) \right]$	
	$\mu = \frac{q c}{8 l} (3 l^2 - 4 c^2)$	$R_A = \frac{q c}{8} \left(11 - 4 \frac{c^2}{l^2} \right)$ $R_B = \frac{q c}{8} \left(5 + 4 \frac{c^2}{l^2} \right)$	
	$\mu = \frac{q b c}{l^2} \left[a (l + b) - c^2 \right]$	$R_A = q c \left[2 - 3 \frac{a^2}{l^2} - \frac{c^2}{l^2} + \frac{a}{l} \left(\frac{a^2}{l^2} + \frac{c^2}{l^2} \right) \right]$ $R_B = q c \left[3 \frac{a^2}{l^2} + \frac{c^2}{l^2} - \frac{a}{l} \left(\frac{a^2}{l^2} + \frac{c^2}{l^2} \right) \right]$	
	$\mu = \frac{5}{64} q l^2$	$R_A = \frac{21}{64} q l$ $R_B = \frac{11}{64} q l$	

VIGA APOYADA EMPOTRADA

DISTINTAS HIPOTESIS DE CARGA

F, q y segmentos, en
valor absoluto

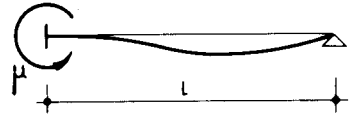


SOLICITACION	MOMENTOS DE EMPOTRAMIENTO PERFECTO	REACCIONES EN LOS APOYOS	DIAGRAMA DE MOMENTOS FLECTORES
	$\mu = \frac{7}{120} q l^2$	$R_A = \frac{9}{40} q l$ $R_B = \frac{11}{40} q l$	
	$\mu = \frac{q l^2}{15}$	$R_A = \frac{2}{5} q l$ $R_B = \frac{q l}{10}$	
	$\mu = \frac{q a^2}{120} \left[40 - 3 \frac{a}{l} (15 - 4 \frac{a}{l}) \right]$	$R_A = \frac{q a}{40} \left[20 - \frac{a^2}{l^2} (15 - 4 \frac{a}{l}) \right]$ $R_B = \frac{q a^3}{40 l^2} (15 - 4 \frac{a}{l})$	
	$\mu = \frac{q b^2}{30} (5 - 3 \frac{b^2}{l^2})$	$R_A = \frac{q b^2}{10 l} (5 - \frac{b^2}{l^2})$ $R_B = \frac{q b}{10} \left[5 - \frac{b}{l} (5 - \frac{b^2}{l^2}) \right]$	

VIGA APOYADA EMPOTRADA

DISTINTAS HIPOTESIS DE CARGA

F, q y segmentos, en
valor absoluto

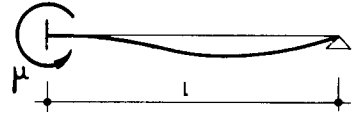


SOLICITACION	MOMENTOS DE EMPOTRAMIENTO PERFECTO	REACCIONES EN LOS APOYOS	DIAGRAMA DE MOMENTOS FLECTORES
	$\mu = \frac{q b^2}{120} (10 - 3 \frac{b^2}{l^2})$	$R_A = \frac{q b^2}{40 l} (10 - \frac{b^2}{l^2})$ $R_B = \frac{q b}{40} \left[20 - \frac{b}{l} (10 - \frac{b^2}{l^2}) \right]$	
	$\mu = \frac{q a^2}{120} \left[20 - 3 \frac{a}{l} (5 - \frac{a}{l}) \right]$	$R_A = \frac{q a}{40} \left[20 - \frac{a^2}{l^2} (5 - \frac{a}{l}) \right]$ $R_B = \frac{q a^3}{40 l^2} (5 - \frac{a}{l})$	
<p>c. parabólica</p>	$\mu = \frac{q l^2}{10}$	$R_A = \frac{13}{30} q l$ $R_B = \frac{7}{30} q l$	
	$\mu = \frac{m}{2} (1 - 3 \frac{b^2}{l^2})$	$R_A = \frac{3}{2} \frac{m a}{l^2} (2 - \frac{a}{l})$ $R_B = -\frac{3}{2} \frac{m a}{l^2} (2 - \frac{a}{l})$	

VIGA APOYADA EMPOTRADA

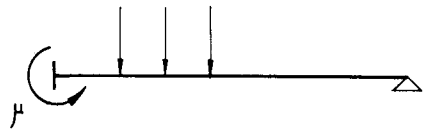
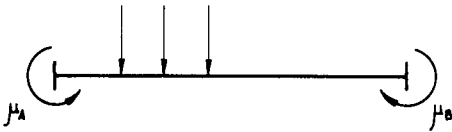
DISTINTAS HIPOTESIS DE CARGA

F , q y segmentos, en
valor absoluto



SOLICITACION	MOMENTOS DE EMPOTRAMIENTO PERFECTO	REACCIONES EN LOS APOYOS	DIAGRAMA DE MOMENTOS FLECTORES
	$\mu = \frac{m}{2}$	$R_A = \frac{3}{2} \frac{m}{l}$ $R_B = -\frac{3}{2} \frac{m}{l}$	

CALCULO DEL MOMENTO DE EMPOTRAMIENTO DE UNA VIGA APOYADA-EMPOTRADA EN FUNCION DE LOS MOMENTOS DE EMPOTRAMIENTO PERFECTO.

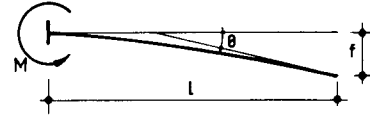


$$\mu = \mu_A - \beta_B \cdot \mu_B$$

$$\mu = \mu_A - \frac{1}{2} \mu_B$$

VIGA EN VOLADIZO

DISTINTAS HIPOTESIS DE CARGA



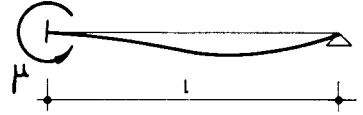
F,q y segmentos en
valor absoluto

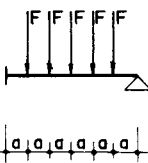
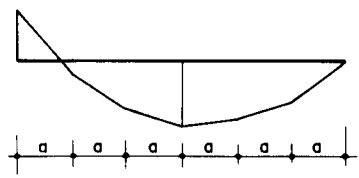
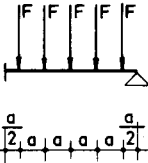
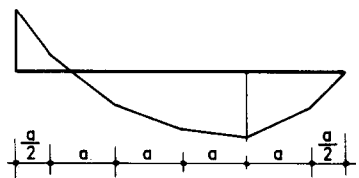
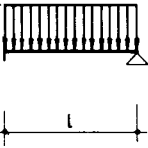
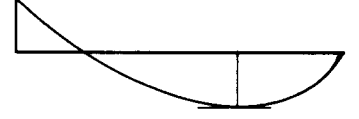
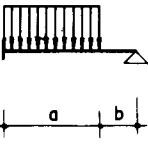
SOLICITACION	DIAGRAMA DE MOMENTOS FLECTORES MOMENTO MAXIMO	DIAGRAMA DE ESFUERZOS CORTANTES REACCION EN APOYO	FLECHA MAXIMA ANGULO DE GIRO EXTREMO
	<p>$M = F \cdot a$</p>	<p>$R = F$</p>	$f = F \cdot a^2 \frac{3L - a}{6EI}$ $\theta = \frac{F \cdot a^2}{2EI}$
	<p>$M = F \cdot L$</p>	<p>$R = F$</p>	$f = \frac{F \cdot L^3}{3EI}$ $\theta = \frac{F \cdot L^2}{2EI}$
	<p>$M = \frac{1}{2} q \cdot L^2$</p>	<p>$R = q \cdot L$</p>	$f = \frac{q \cdot L^4}{8EI}$ $\theta = \frac{q \cdot L^3}{6EI}$
	<p>$M = \frac{1}{2} q \cdot a^2$</p>	<p>$R = q \cdot a$</p>	$f = q \cdot a^3 \frac{4L - a}{24EI}$ $\theta = \frac{q \cdot a^3}{6EI}$

VIGA APOYADA EMPOTRADA

DISTINTAS HIPOTESIS DE CARGA

F, q y segmentos, en
valor absoluto



SOLICITACION	MOMENTOS DE EMPOTRAMIENTO PERFECTO	REACCIONES EN LOS APOYOS	DIAGRAMA DE MOMENTOS FLECTORES
 <p>n° de fuerzas = $n-1$</p>	$\mu = \frac{n^2-1}{8n} Fl$	$R_A = \frac{(n-1)(5n+1)}{8n} F$ $R_B = \frac{(n-1)(3n-1)}{8n} F$	
 <p>n° de fuerzas = n</p>	$\mu = \frac{2n^2+1}{16n} Fl$	$R_A = \frac{10n^2+1}{16n} F$ $R_B = \frac{6n^2-1}{16n} F$	
	$\mu = \frac{1}{8} ql^2$	$R_A = \frac{5}{8} ql$ $R_B = \frac{3}{8} ql$	
	$\mu = \frac{qa^2(l+b)^2}{8l^2}$	$R_A = \frac{qa}{8} (5 - \frac{b^2}{l^2}) (1 + \frac{b}{l})$ $R_B = \frac{qa^3}{8l^2} (4 - \frac{a}{l})$	