

<p>Diagram of a beam A-B with a fixed support at A and a roller support at B. A downward force <math>F</math> is applied at a distance <math>x_f</math> from the fixed support A. The beam has a constant cross-section and length <math>L</math>. The deflection curve is parabolic.</p>	$\omega_A = -\frac{Fab(L+b)}{6EI}$ $\omega_B = \frac{Fab(L+a)}{6EI}$ Si $a > b$ : $x_f = \sqrt{\frac{L^2-b^2}{3}}$ $f = \frac{Fbx(L^2-b^2)^{3/2}}{9\sqrt{3}EI}$	$0 \leq x \leq a$ $y' = -\frac{Fb(L^2-b^2-3x^2)}{6EI}$ $y = -\frac{Fbx(L^2-b^2-x^2)}{6EI}$
<p>Diagram of a beam A-B with a fixed support at A and a roller support at B. A uniform downward distributed load <math>q</math> is applied over the entire length <math>L</math> of the beam. The beam has a constant cross-section.</p>	$\omega_A = -\omega_B = -\frac{qL^3}{24EI}$ $f = -\frac{5qL^4}{384EI}$	$y' = -\frac{q}{24EI}(4x^3 - 6Lx^2 + L^3)$ $y = -\frac{qx}{24EI}(x^3 - 2Lx^2 + L^3)$
<p>Diagram of a beam A-B with a fixed support at A and a roller support at B. A triangular downward distributed load starts at zero at A and reaches <math>q_0</math> at B. The beam has a constant cross-section.</p>	$\omega_A = -\frac{7q_0L^3}{360EI}$ $\omega_B = \frac{q_0L^3}{45EI}$ Pour $x_f = 0,5193L$ $f = -\frac{0,00652q_0L^4}{EI}$	$y' = -\frac{q_0}{360EI}(15x^4 - 30L^2x^2 + 7L^4)$ $y = -\frac{q_0x}{360EI}(3x^4 - 10L^2x^2 + 7L^4)$
<p>Diagram of a beam A-B with a fixed support at A and a roller support at B. A fixed horizontal displacement <math>a</math> is imposed at A, and a clockwise rotation <math>c</math> is imposed at B. The beam has a constant cross-section.</p>	$\omega_A = -\frac{c(6aL-3a^2+2L^2)}{6EI}$ $\omega_B = \frac{c(3a^2-L^2)}{6EI}$	$x \leq a$ $y' = -\frac{c}{6EI}(6aL-3x^2-3a^2-2L^2)$ $y = -\frac{cx}{6EI}(6aL-x^2-3a^2-2L^2)$ $x \geq a$ $y = -\frac{c}{6EI}(x^3-Lx^2+3a^2x-3a^2L)$
<p>Diagram of a beam A-B with a fixed support at A and a roller support at B. A fixed horizontal displacement <math>a</math> is imposed at A, and a clockwise rotation <math>c</math> is imposed at B. The beam has a constant cross-section.</p>	$\omega_A = -\frac{qa^2}{24EI} (2L-a)^2$ $\omega_B = -\frac{qa^2}{24EI} (L+a)^2$	$x \leq a$ $y' = -\frac{q}{24EI}(4Lx^3 - 12aLx^2 + 6a^2x^2 + 4a^2L^2 - 4a^3L + a^4)$ $y = -\frac{qx}{24EI}(Lx^3 - 4aLx^2 + 2a^2x^2 + 4a^2L^2 - 4a^3L + a^4)$

	$\omega_B = -\frac{FL^2}{2EI}$ $f = -\frac{FL^3}{3EI}$	$y' = -\frac{Fx}{2EI}(2L-x)$ $y = -\frac{Fx^2}{6EI}(3L-x)$
	$\omega_B = -\frac{Fa^2}{2EI}$ $f = -\frac{Fd^2(3L-a)}{6EI}$	$x \leq a$ $y' = -\frac{Fx}{2EI}(2a-x)$ $y = -\frac{Fx^2}{6EI}(3a-x)$ $x > a$ $y' = -\frac{Fa^2}{2EI}$ $y = -\frac{Fa^2}{6EI}(3x-a)$
	$\omega_B = -\frac{qL^3}{6EI}$ $f = -\frac{qL^4}{8EI}$	$y' = -\frac{qx}{6EI}(3L^2 - 3Lx + x^2)$ $y = -\frac{qx^2}{24EI}(x^2 - 4Lx + 6L^2)$
	$\omega_B = -\frac{q_0L^3}{24EI}$ $f = -\frac{q_0L^4}{30EI}$	$y' = -\frac{q_0x}{24EI}(4L^3 - 6L^2x + 4Lx^2 - x^3)$ $y = -\frac{q_0x^2}{120EI}(10L^3 - 10L^2x + 5Lx^2 - x^3)$
	$\omega_B = \frac{C}{EI}$ $f = \frac{Ca}{2EI}(2L-a)$	$x \leq a$ $y' = \frac{Cx}{EI}$ $y = \frac{Cx^2}{2EI}$ $x > a$ $y' = \frac{Ca}{EI}$ $y = \frac{Ca}{2EI}(2x-a)$
	$\omega_B = -\frac{qa^3}{6EI}$ $f = -\frac{qa^3}{24EI}(4L-a)$	$x \leq a$ $y' = -\frac{qx}{6EI}(x^2 - 3ax + 3a^2)$ $y = -\frac{qx^2}{24EI}(x^2 - 4ax + 6a^2)$ $x > a$ $y' = -\frac{qa^3}{6EI}$ $y = -\frac{qa^3}{24EI}(4x-a)$