

$$\begin{aligned} &> \text{ypr} := (x, k, x0) \rightarrow k \cdot (x - x0) \\ &\text{yprd} \quad (x, k, x0) \quad k(x - x0) \end{aligned} \quad (1)$$

$$\begin{aligned} &> \text{ykr} := (r, x) \rightarrow \sqrt{r^2 - x^2} \\ &\text{ykrd} \quad (r, x) \quad \sqrt{r^2 - x^2} \end{aligned} \quad (2)$$

$$\begin{aligned} &> \text{dpr} := \text{diff}(\text{ypr}(x, k, x0), x) \\ &\text{dprd} \quad k \end{aligned} \quad (3)$$

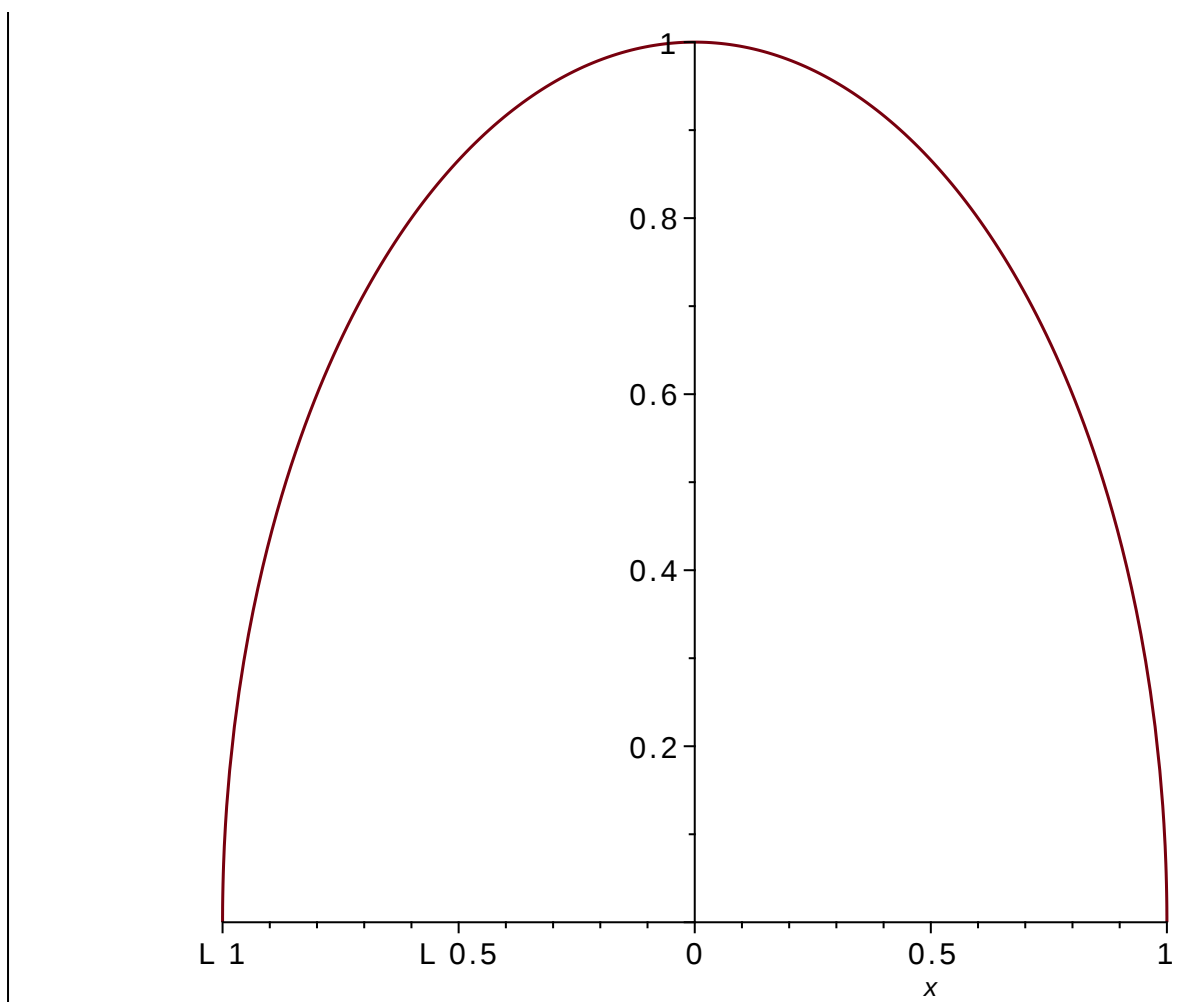
$$\begin{aligned} &> \text{dkr} := \text{diff}(\text{ykr}(r, x), x) \\ &\text{dkrd} \quad L \frac{x}{\sqrt{r^2 - x^2}} \end{aligned} \quad (4)$$

$$\begin{aligned} &> \text{solve}(\{\text{ypr}(x, k, x0) = \text{ykr}(r, x), \text{dpr} = \text{dkr}\}, \{x, k\}) \text{ assuming } x < r \\ &\left\{ k = \text{RootOf}((r^2 - x0^2) - Z^2 C 1), x = \frac{r^2}{x0} \right\} \end{aligned} \quad (5)$$

$$\begin{aligned} &> \text{res} := \text{allvalues}(\%) \\ &\text{resd} \quad \left\{ k = \sqrt{L \frac{1}{r^2 - x0^2}}, x = \frac{r^2}{x0} \right\}, \left\{ k = L \sqrt{L \frac{1}{r^2 - x0^2}}, x = \frac{r^2}{x0} \right\} \end{aligned} \quad (6)$$

$$\begin{aligned} &> \text{k1} := \text{eval}(k, \text{res}[2]) \\ &\text{k1d} \quad L \sqrt{L \frac{1}{r^2 - x0^2}} \end{aligned} \quad (7)$$

$$> \text{plot}(\text{ykr}(1, x), x = -1..1)$$



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> plot(eval(ykr(x,k1,2),{x0=2,r=1}), x=-1..3)
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