

G12TINNEG

Negative Lens

Focal length f is negative, light from left propagating from medium with index 1 to lens of refractive index n .
 x_o on left of surface (negative)

Calculation of graph for x_i as function of x_o over the total range of x_o .

graph for x_i as function of x_o over the range of x_o to the left of the lens.

graph for x_i as function of x_o over the range of x_o between lens and f .

graph for x_i as function of x_o over the range of x_o to the right of f .

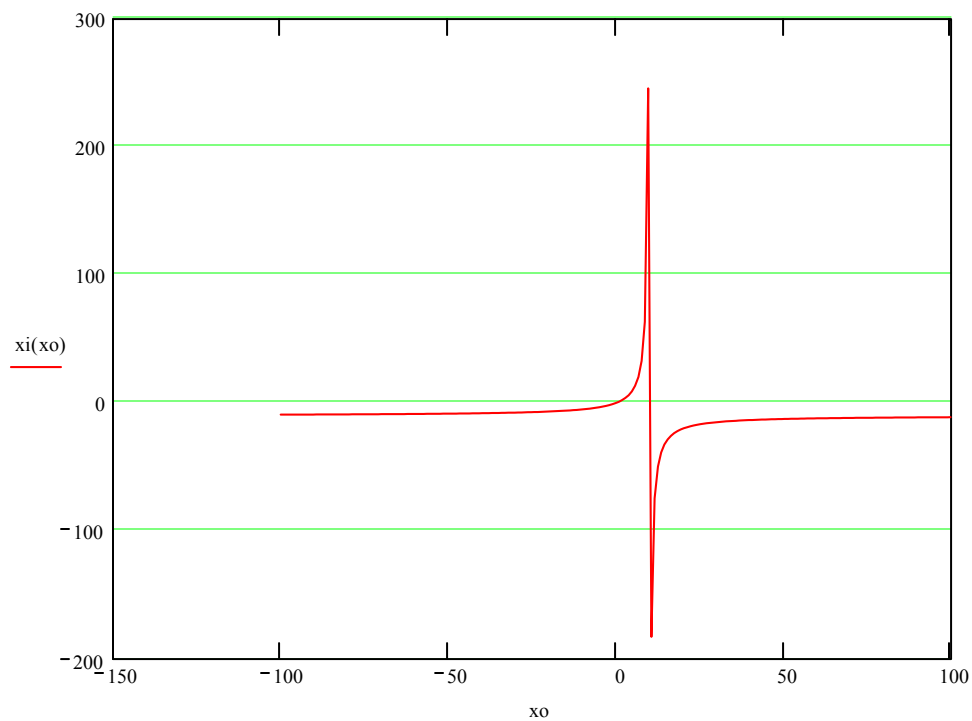
$$f \equiv -10$$

Image focus: $-f$

Object focus: f

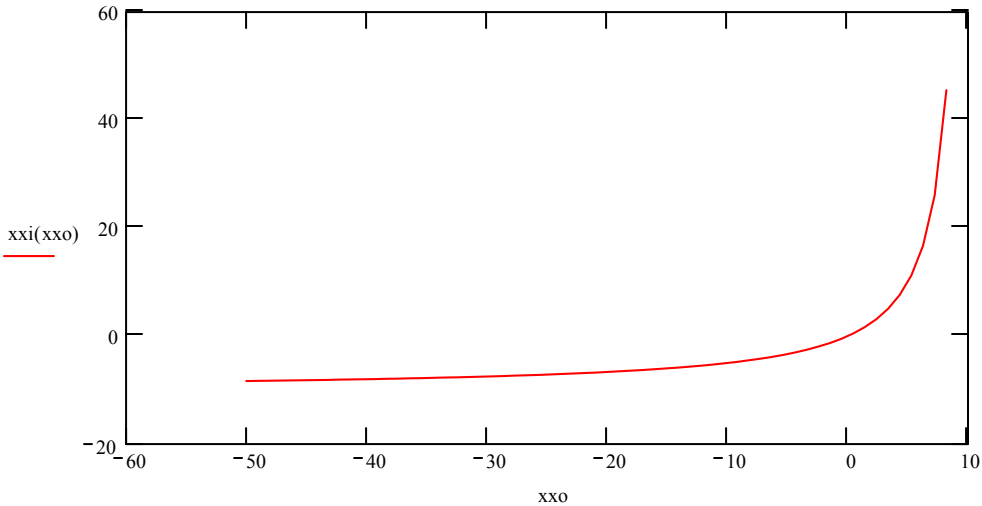
$$x_o := -100.001, -99.031 \dots 100$$

$$x_i(x_o) := \frac{1}{\left(\frac{1}{f}\right) + \frac{1}{x_o}}$$



$$\text{xxo} := -50.001, -49.031 \dots 9$$

$$\text{xxi}(\text{xxo}) := \frac{1}{\left(\frac{1}{f}\right) + \frac{1}{\text{xxo}}}$$



$$\text{xxxo} := 11.001, 12.031 \dots 50$$

$$\text{xxxi}(\text{xxxo}) := \frac{1}{\left(\frac{1}{f}\right) + \frac{1}{\text{xxxo}}}$$

