

## Plotting Complex Functions

⊞ pz

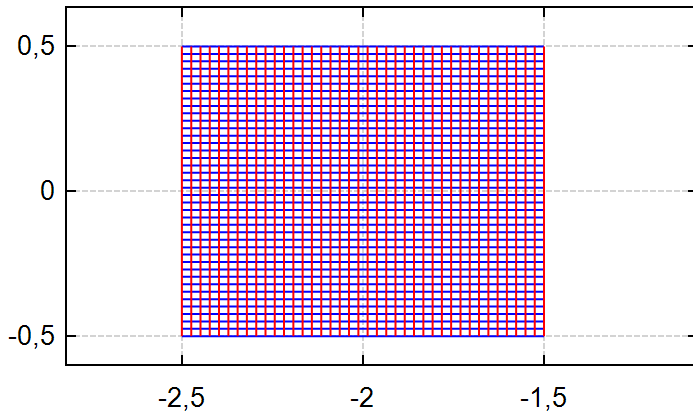
⊞ Examples

`pZ("f", B, N)` plots the complex map of  $f(z)$  in the box  $B$  with  $N$  points

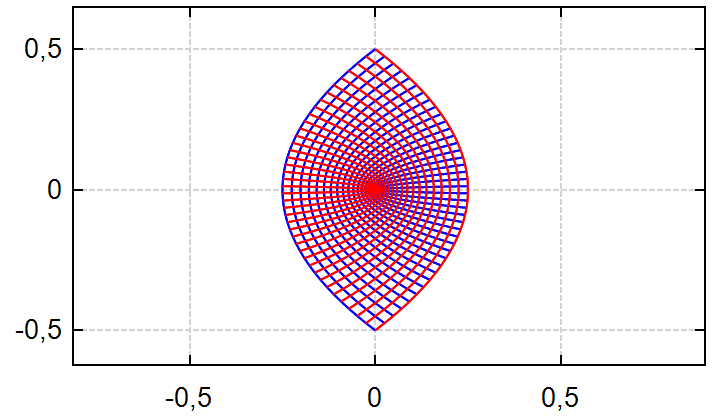
$$B := \begin{bmatrix} -1 & 1 \\ -1 & 1 \end{bmatrix} = \begin{bmatrix} x1 & x2 \\ y1 & y2 \end{bmatrix}$$

$$N := 2 \cdot \begin{bmatrix} 20 \\ 20 \end{bmatrix} = \begin{bmatrix} nx \\ ny \end{bmatrix}$$

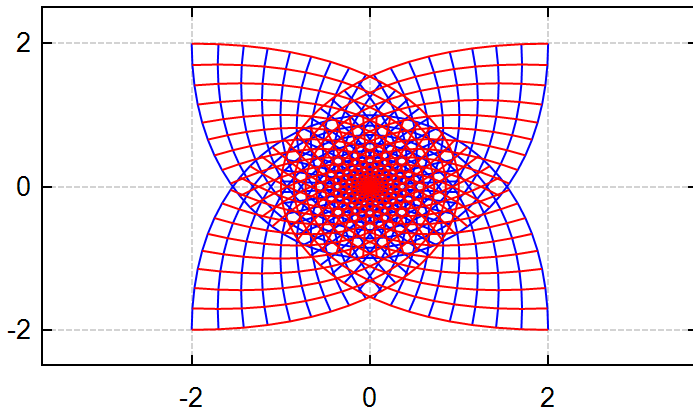
$$f_1(z) := z - 2$$



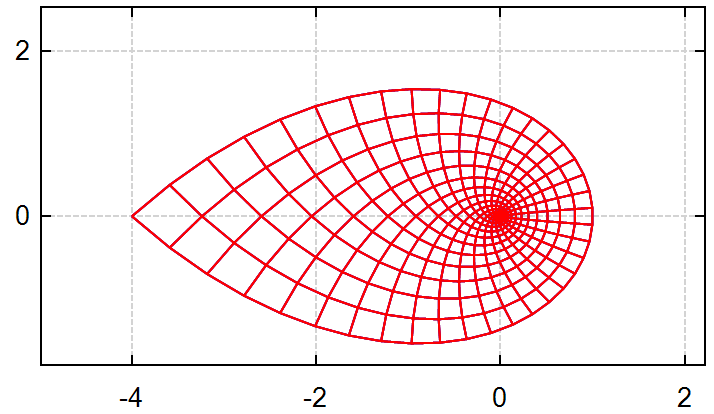
$$f_2(z) := z^2$$



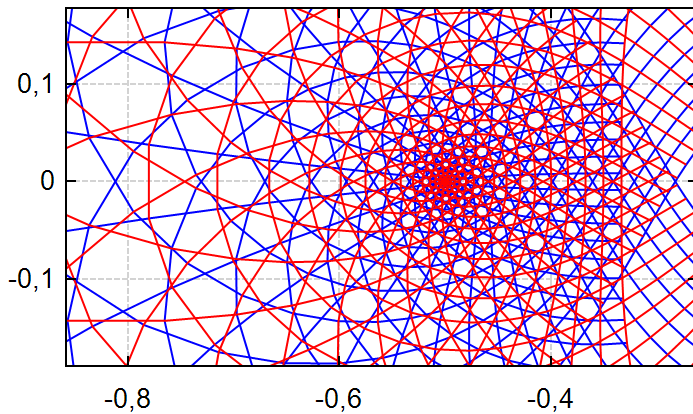
$$f_1(z) := z^3$$



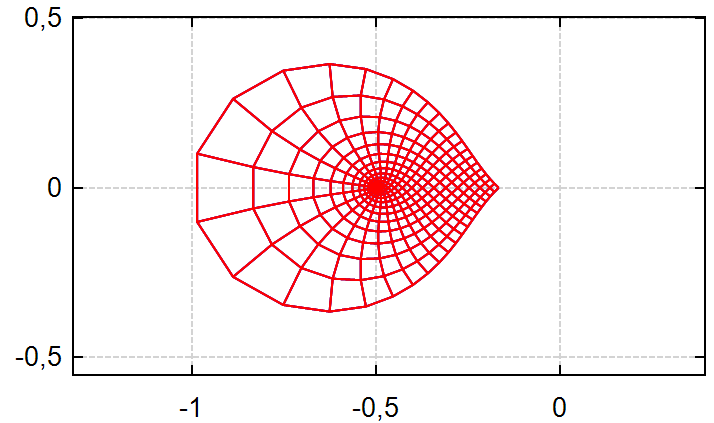
$$f_2(z) := z^4$$



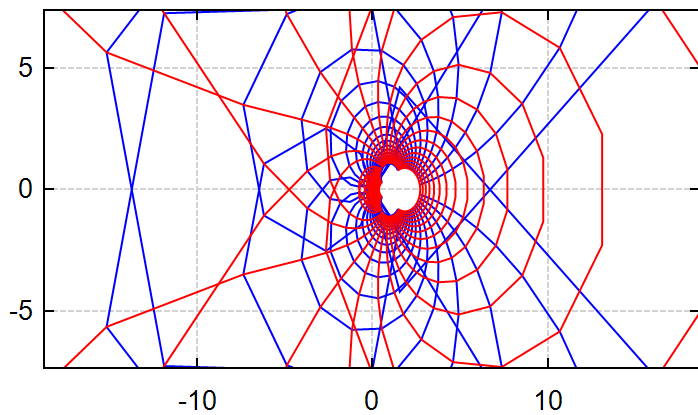
$$f_1(z) := \frac{1}{z^3 - 2}$$



$$f_2(z) := \frac{1}{z^4 - 2}$$

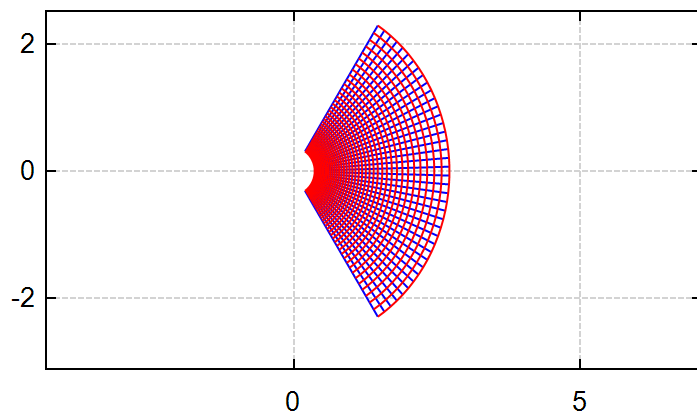
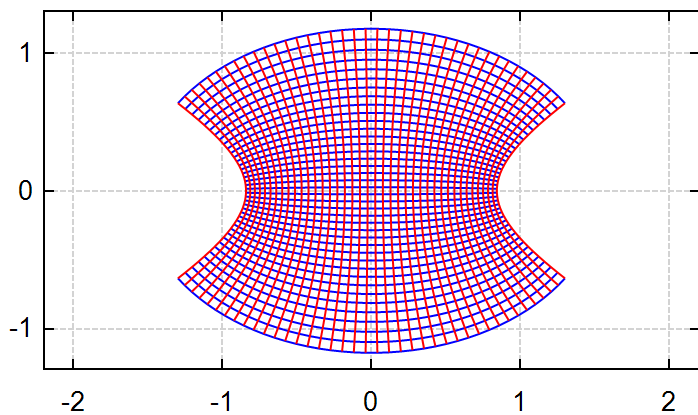


$$f_1(z) := e^{-\frac{1}{z}}$$



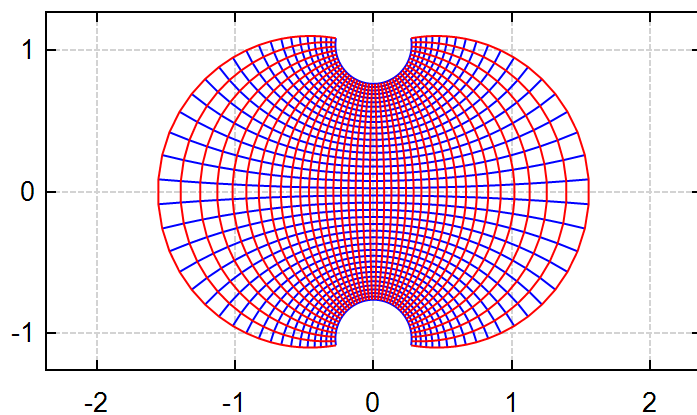
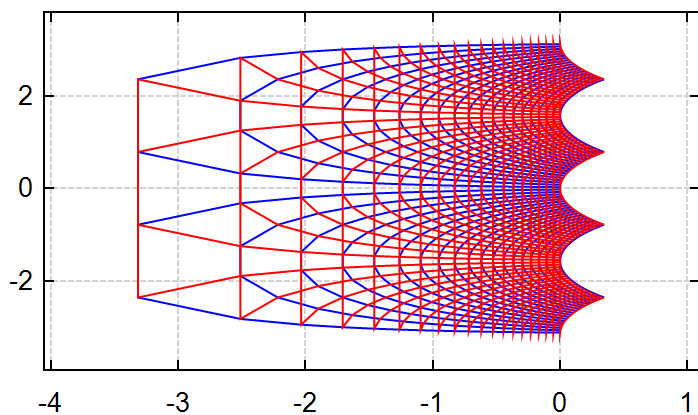
$$f_1(z) := \sin(z)$$

$$f_2(z) := e^z$$



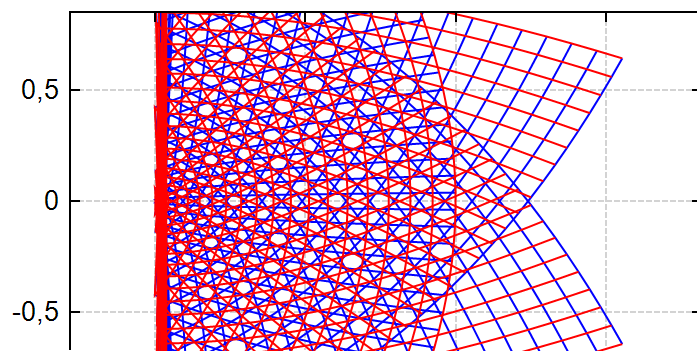
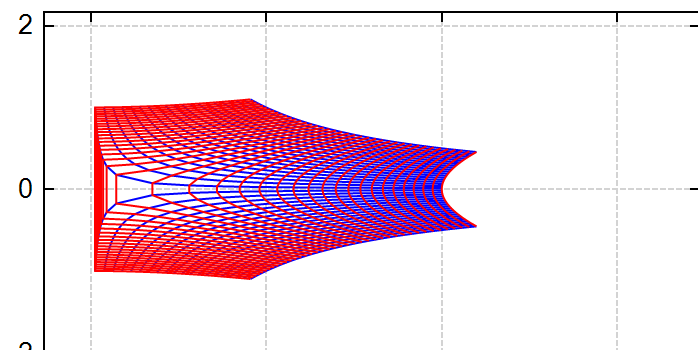
$$f_1(z) := \ln(z)$$

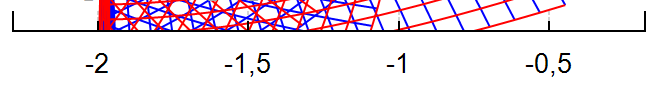
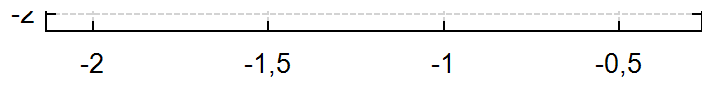
$$f_2(z) := \tan(z)$$



$$f_1(z) := \sqrt{z} - 2$$

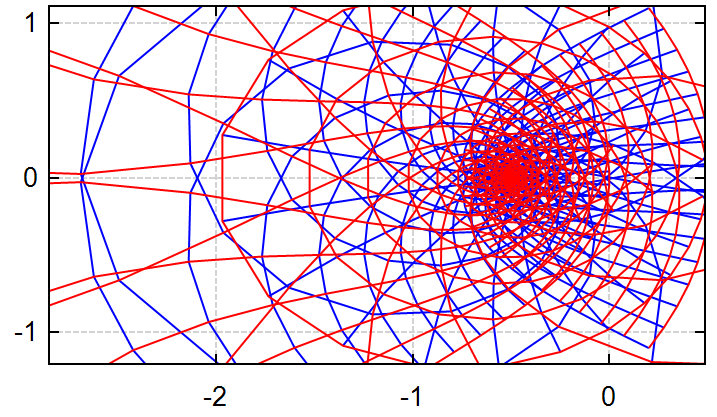
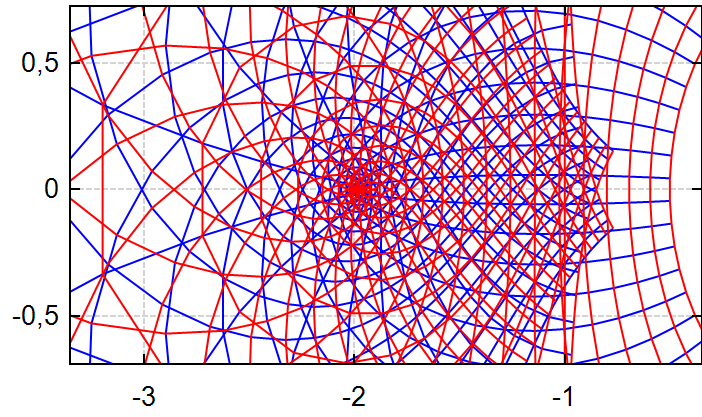
$$f_2(z) := \sqrt[3]{z} - 2$$





$$f_1(z) := \frac{z^2 - 2}{z^3 + 1}$$

$$f_2(z) := \frac{z^5 + 1}{z^3 - 2}$$



---

Alvaro