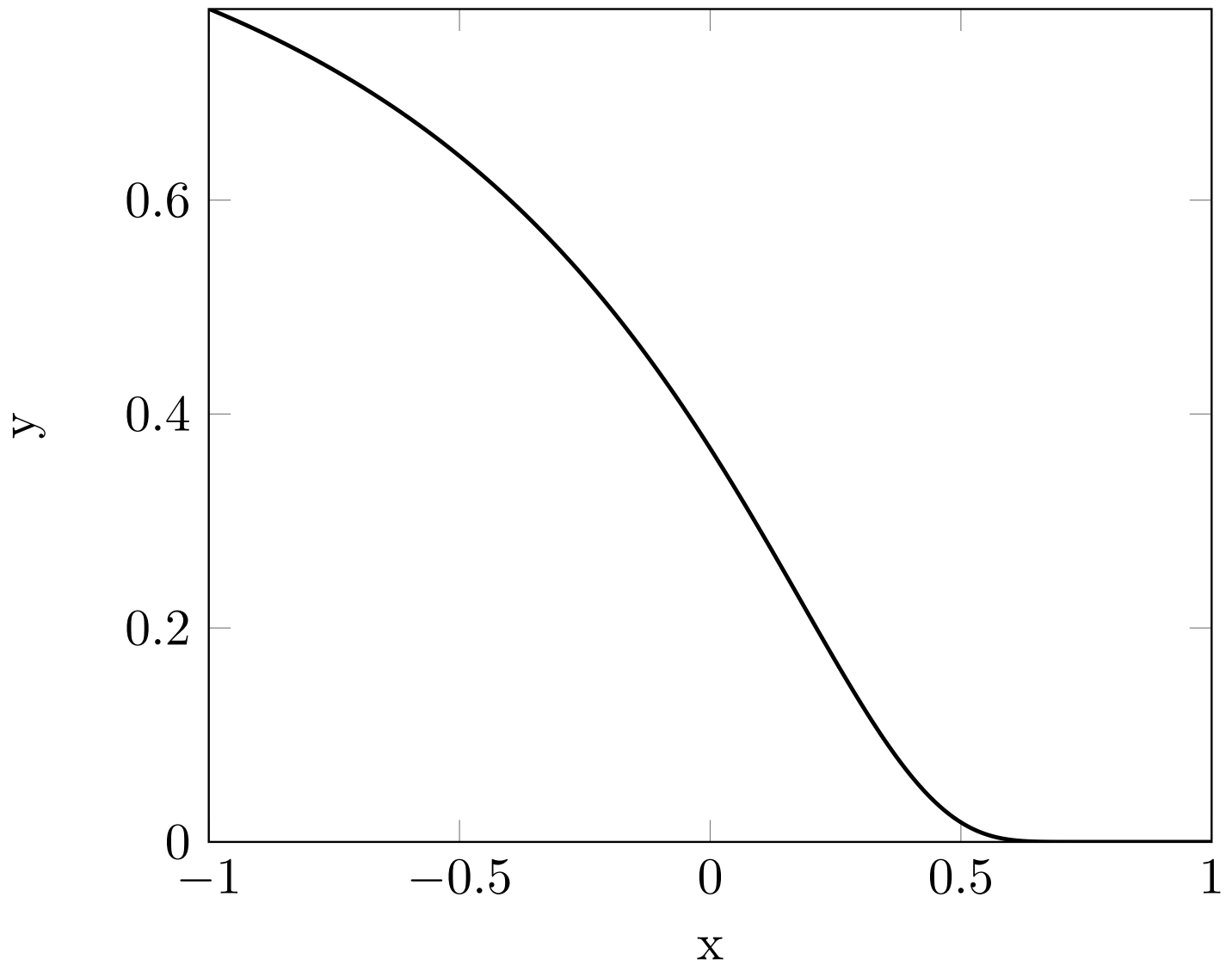$$\exp(-1/(1-x)^2)$$

Actual Function

Figure 1: Actual function
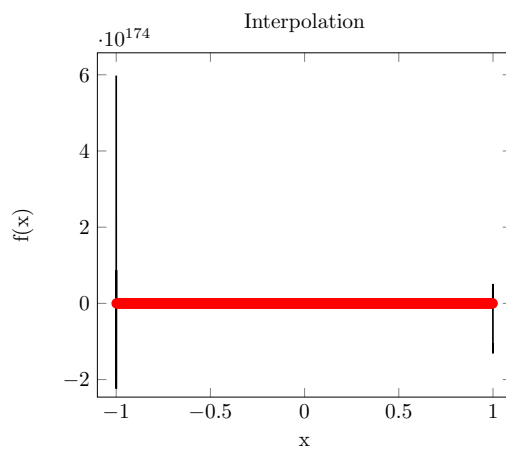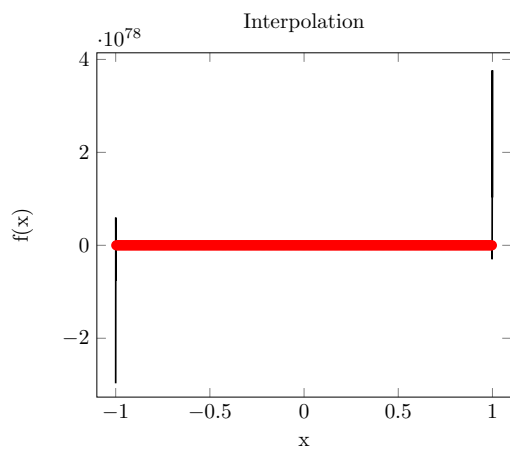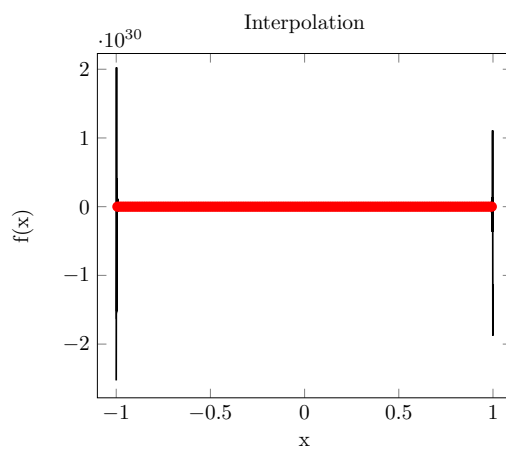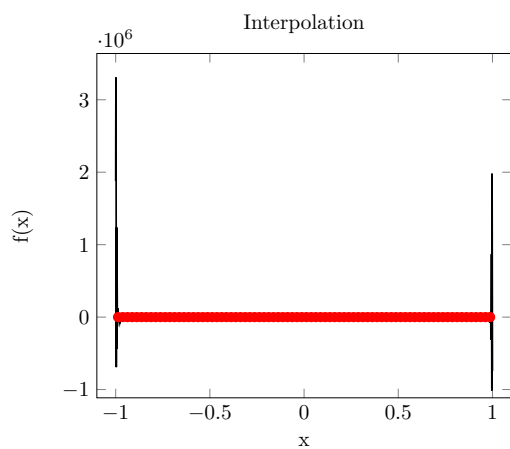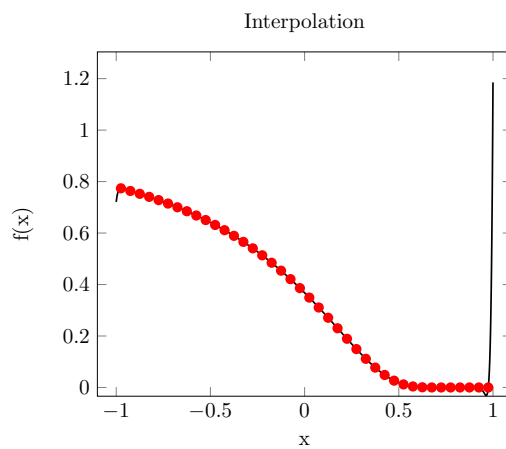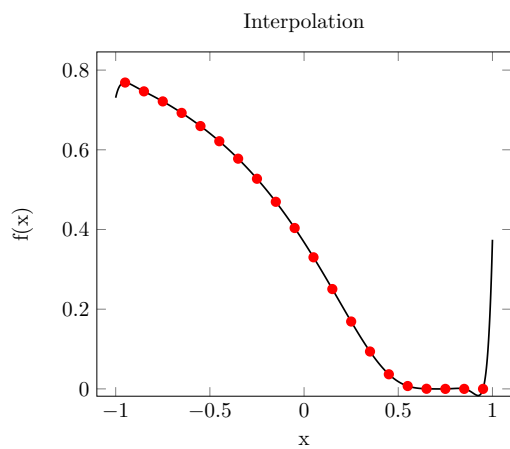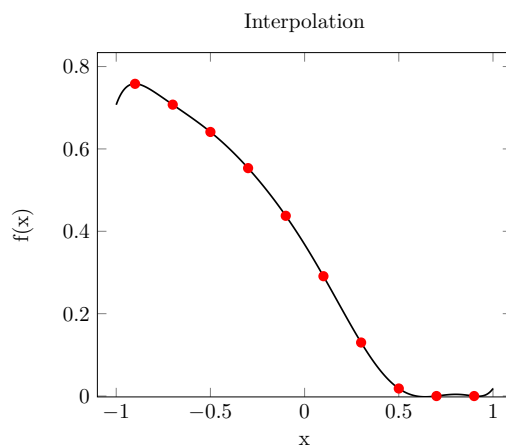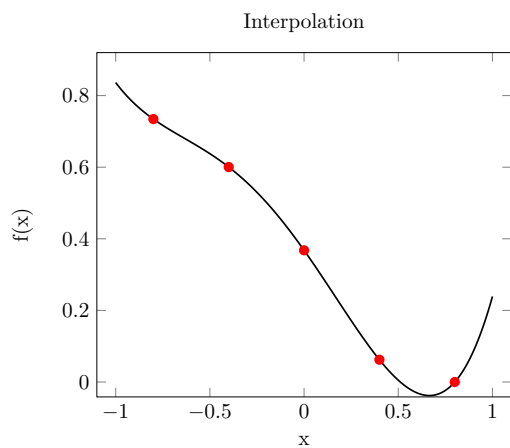
Figure 2: Chebyshev interpolation
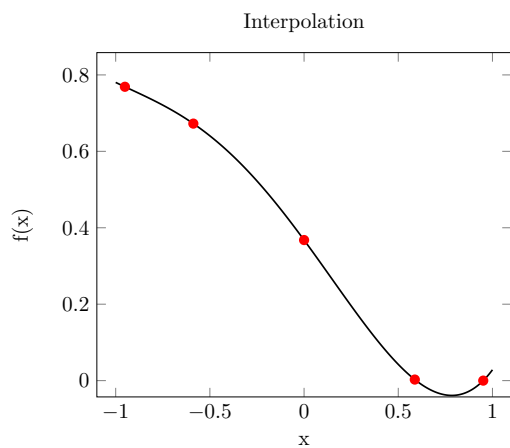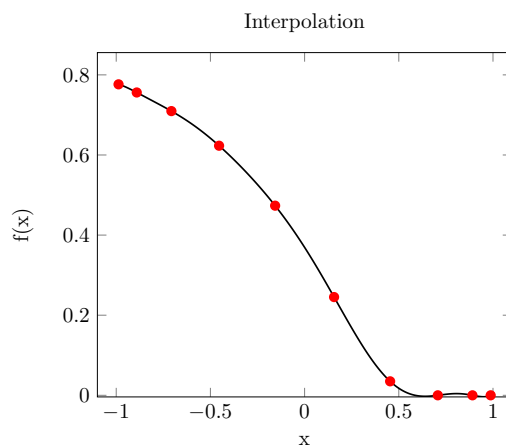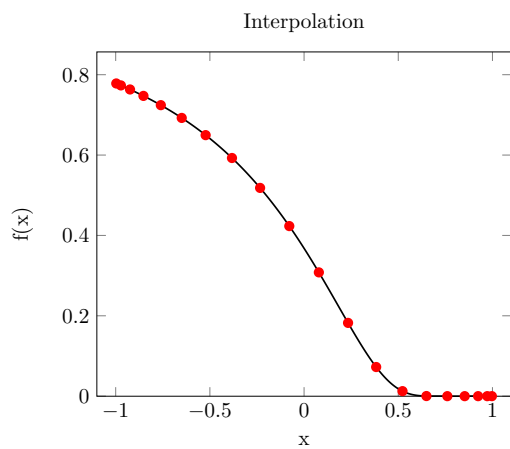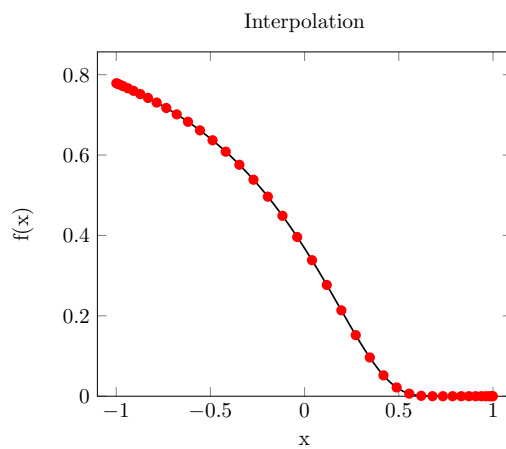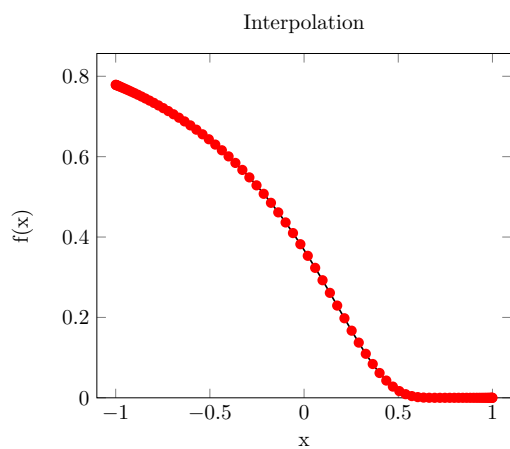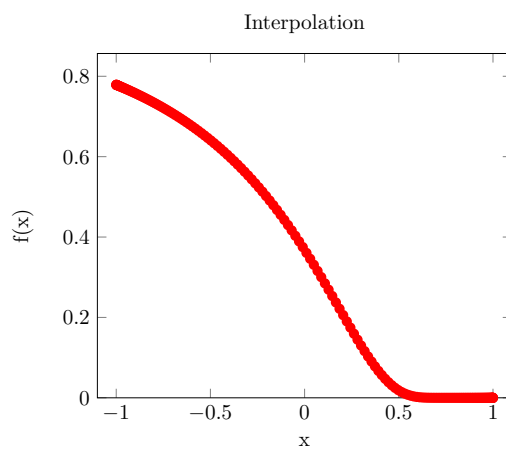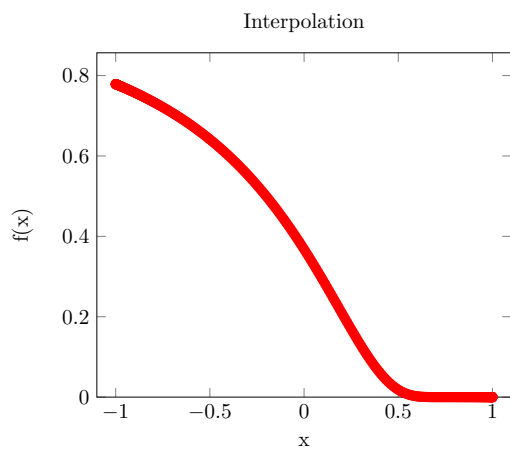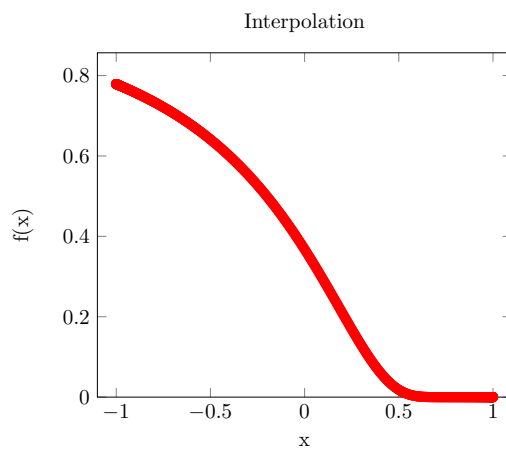
Figure 3: Chebyshev interpolation