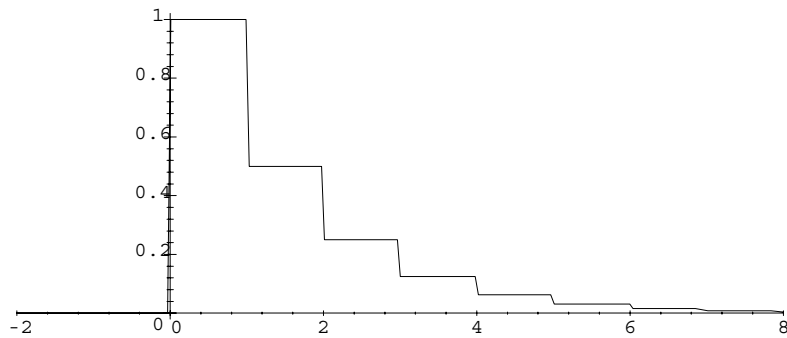


**Supplement to solutions to Homework Exercises No. 3, Fourier
Transforms. Graphs of various functions.**

(Note that the scales on the x and y axes are not the same.)

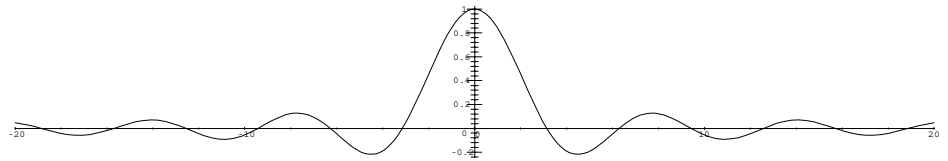
- (i) Here is (part of) the graph of the function $f(x)$ in Exercise 1. $f(x) =$

$$\begin{cases} 2^{-\lfloor x \rfloor} & \text{if } x \geq 0 \\ 0 & \text{if } x < 0 \end{cases}$$



- (ii) Here is (part of) the graph of the function $(x) = \text{sinc} x$ from Exercise 4.

$$(x) = \begin{cases} \frac{\sin x}{x} & \text{if } x > 0 \\ \frac{\sin x}{x} & \text{if } x < 0 \\ 1 & \text{if } x = 0 \end{cases}$$



- (ii) Finally, here is part of the graph of the EVEN function

$$f(x) = \int_{-\pi}^{\pi} e^{i\omega x} \omega^2 d\omega = 2 \frac{x^2 (\sin x\pi) \pi^2 + 2x (\cos x\pi) \pi - 2 \sin x\pi}{x^3}$$

also from Exercise 4.

