

Find the Fourier integral for the functions

$$1) M(x) = \begin{cases} 0, & -\infty < x < -1 \\ 2x, & -1 < x < 1 \\ 0, & 1 < x < \infty \end{cases} .$$

$$2) N(x) = \begin{cases} 0, & x < 0 \\ \sin x, & 0 \leq x < \pi \end{cases} .$$