Suppose you have a definite function $f(x)$ in mind and you already know its Fourier transform, i.e. you know how to do the integral

$$\tilde{f}(k) = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{\infty} e^{-ikx} \, f(x) \, dx \tag{1}$$

Find the Fourier transform of the shifted function $f(x - x_0)$.