

1. What is the difference between a discrete Fourier transform (in which the integrals are approximated by sums) and a Fourier series?
2. What ambiguity arises from measuring a signal for only a finite length of time T ?
3. How is that ambiguity removed in the DFT method?
4. In the DFT method, what is the period of the Fourier transform $Y(\omega_n)$?
5. What should the person who measures the signal do in order to obtain a smoother Fourier transform?
6. What should the person who measures the signal do in order to obtain a Fourier transform that is more accurate at high frequencies?