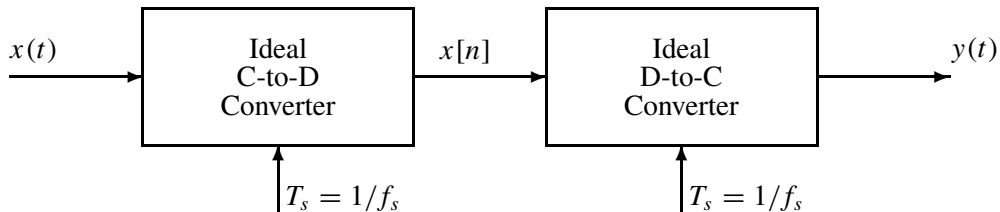


PROBLEM:

Consider the following sampling and reconstruction system.



where $x[n] = x(nT_s)$. If $x(t)$ is given by the formula

$$x(t) = 10 \cos(20\pi t - \pi/4) - 5 \cos(50\pi t),$$

- What condition must be satisfied by the sampling rate, $f_s = 1/T_s$, such that $y(t) = x(t)$?
- How should f_s be chosen so that $y(t) = A + 10 \cos(20\pi t - \pi/4)$?
- Determine the constant A in part (b).