Consider

complex-valued input → [system] → output

f(x) → system → g(x)
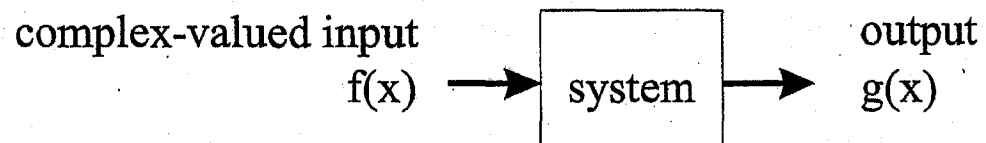
Fourier transform{f(x)} = F(s)
Fourier transform{g(x)} = G(s)

For each case below, is it possible to achieve that output? Explain.

1)

magnitude of F(s) — phase of F(s) → LSI → magnitude of G(s) — phase of G(s)