

1. מצא את התחום של  $\text{Re}$  בו קבולת הריאלי

$$f(x) = \frac{1}{3+x^2} \quad (א)$$

$$f(x) = \frac{\cos \sqrt{3}x}{3+x^2} \quad (ב)$$

$$f(x) = \frac{\sin 2x}{3+x^2} \quad (ג)$$

2. מצא את התחום של  $\text{Re}$  בו קבולת הריאלי

$$f(x) = \frac{1}{x^2+6x+13} \quad (א)$$

$$f(x) = \frac{e^{-ix}}{x^2+6x+13} \quad (ב)$$

$$f(x) = \frac{\cos 2x}{x^2+6x+13} \quad (ג)$$

3. מצא את התחום של  $\text{Re}$  בו קבולת הריאלי

$$f(x) = \begin{cases} 1 + \cos 3x, & |x| < 1 \\ 0, & |x| > 1 \end{cases}$$

4. מצא את התחום של  $\text{Re}$  בו קבולת הריאלי

$$F(\omega) = \frac{1}{\omega^4+5\omega^2+4} \quad (א)$$

$$F(\omega) = \frac{e^{3i\omega}}{\omega^4+5\omega^2+4} \quad (ב)$$

$$F(\omega) = \frac{1}{(\omega-1)^4+5(\omega-1)^2+4} \quad (ג)$$

$$F(\omega) = \frac{e^{3i\omega}}{(\omega-1)^4+5(\omega-1)^2+4} \quad (ד)$$



PROBLEM

$$F(\omega) = \frac{1}{\sqrt{3}} \cdot \sqrt{\frac{\pi}{2}} e^{-\sqrt{3}|\omega|} \quad (k.1)$$

$$F(\omega) = \frac{1}{\sqrt{3}} \sqrt{\frac{\pi}{2}} \frac{e^{-\sqrt{3}|\omega-\sqrt{3}|} + e^{-\sqrt{3}|\omega+\sqrt{3}|}}{2} \quad (a)$$

$$F(\omega) = \frac{1}{\sqrt{3}} \sqrt{\frac{\pi}{2}} \frac{e^{-\sqrt{3}|\omega-2|} - e^{-\sqrt{3}|\omega+2|}}{2i}$$

$$F(\omega) = \frac{1}{2} \sqrt{\frac{\pi}{2}} e^{-2|\omega| + 3i\omega} \quad (k.2)$$

$$F(\omega) = \frac{1}{2} \sqrt{\frac{\pi}{2}} e^{-2|\omega+1| + 3i(\omega+1)} \quad (a)$$

$$F(\omega) = \frac{1}{4} \sqrt{\frac{\pi}{2}} \left[ e^{-2|\omega-2| + 3i(\omega-2)} + e^{-2|\omega+2| + 3i(\omega+2)} \right] \quad (d)$$

$$F(\omega) = \sqrt{\frac{2}{\pi}} \left\{ \frac{\sin \omega}{\omega} + \frac{1}{2} \left[ \frac{\sin(\omega+3)}{\omega+3} + \frac{\sin(\omega-3)}{\omega-3} \right] \right\} \quad .3$$

$$f(x) = \frac{1}{3} \sqrt{\frac{\pi}{2}} \left[ e^{-|x|} - \frac{1}{2} e^{-2|x|} \right] \quad (k.4)$$

$$f(x) = \frac{1}{3} \sqrt{\frac{\pi}{2}} \left[ e^{-|x+3|} - \frac{1}{2} e^{-2|x+3|} \right] \quad (a)$$

$$f(x) = \frac{1}{3} \sqrt{\frac{\pi}{2}} e^{ix} \left[ e^{-|x|} - \frac{1}{2} e^{-2|x|} \right] \quad (d)$$

$$f(x) = \frac{1}{3} \sqrt{\frac{\pi}{2}} e^{i(x+3)} \left[ e^{-|x+3|} - \frac{1}{2} e^{-2|x+3|} \right] \quad (a)$$

$$f(x) = \begin{cases} \sqrt{\frac{\pi}{2}} u(x-1) [e^{-(x-1)} - 3e^{-5(x-1)}], & x \neq 1 \\ -\sqrt{\frac{\pi}{2}}, & x = 1 \end{cases} \quad (n)$$

$$f(x) = \frac{-1}{2} \sqrt{\frac{\pi}{2}} i \left\{ u(x+1) [e^{-2(x+1)} - e^{-4(x+1)}] - u(x-3) [e^{-2(x-3)} - e^{-4(x-3)}] \right\} \quad (i)$$

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$$F_c(\omega) = \begin{cases} \sqrt{\frac{2}{\pi}} \sin \frac{\omega a}{\omega}, & \omega \neq 0 \\ \sqrt{\frac{2}{\pi}} a, & \omega = 0 \end{cases} \quad \omega \geq 0 \quad (\kappa.5)$$

$$F_s(\omega) = \begin{cases} \sqrt{\frac{2}{\pi}} \frac{1 - \cos \omega a}{\omega}, & \omega \neq 0 \\ 0, & \omega = 0 \end{cases} \quad \omega \geq 0$$

$$F_c(\omega) = \begin{cases} \sqrt{\frac{2}{\pi}} \frac{\omega \sin \pi \omega}{1 - \omega^2}, & \omega \neq \pm 1 \\ \sqrt{\frac{\pi}{2}}, & \omega = 1 \end{cases} \quad \omega \geq 0 \quad (\alpha)$$

$$F_s(\omega) = \begin{cases} \sqrt{\frac{2}{\pi}} \frac{\omega (1 + \cos \pi \omega)}{\omega^2 - 1}, & \omega \neq 1 \\ 0, & \omega = 1 \end{cases} \quad \omega \geq 0$$

$$f(x) = \begin{cases} \frac{1}{2} e^{-\frac{x}{2}}, & x > 0 \\ \frac{3}{2} e^{\frac{x}{2}}, & x < 0 \end{cases} \quad (\kappa.6)$$

$$f(t) = \begin{cases} \frac{\sin \pi t}{1 - t^2}, & t > 0, t \neq 1 \\ \frac{\pi}{2}, & t = 1 \end{cases} \quad (\alpha)$$

$$f(t) = \frac{2}{\pi} \frac{t^2 + 2}{t^4 + 4} \quad (\alpha)$$