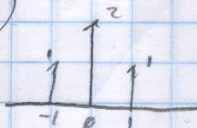


| FECHA | OP | SEM | AÑO | DIA | MES | AÑO | FOLIO |
|-------|----|-----|-----|-----|-----|-----|-------|
|       |    |     |     |     |     |     |       |

③



$$f(t-1) + f(t) + f(t+1) \rightarrow ?$$

$$f(t+1) + f(t) + f(t-1) \rightarrow e^{-it} + e^{it} + 1$$

|                          |  |   |
|--------------------------|--|---|
| $f(t) \leftrightarrow 1$ | $f(t-1) \leftrightarrow 1 \cdot e^{-it}$ | $f(t+1) \leftrightarrow 1 \cdot e^{it}$ |
|--------------------------|--|---|

$$f(t-1) + f(t) + f(t+1) \leftrightarrow \left( \frac{e^{-it} + e^{it}}{2} \right) \cdot 2 + 1$$

$$f(t+1) + f(t+1) + f(t) \rightarrow 2\cos(t) + 1$$

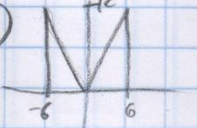
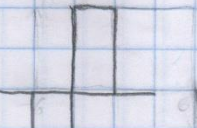
④

$$? \leftrightarrow \frac{1}{3-iw} w^2 + e^{i4w} (w-1)$$

|   |  |  |
|---|--|--|
| $e^{at} u(t) \leftrightarrow \frac{1}{s-iw}$  | $e^{3t} u(t) \leftrightarrow \frac{1}{s-iw}$                       | $f(t) \leftrightarrow 1$                           |
| $e^{-at} u(t) \leftrightarrow \frac{1}{s+iw}$ | $\frac{d^2}{dt^2} [e^{3t} u(t)] \leftrightarrow \frac{-w^2}{s-iw}$ | $f'(t) \leftrightarrow iw$                         |
| $e^{at} u(t) \leftrightarrow \frac{1}{s-iw}$  | $\frac{d^2}{dt^2} [e^{3t} u(t)] \leftrightarrow \frac{w^2}{s-iw}$  | $-if'(t) \leftrightarrow w$                        |
|   |  | $-if(t) e^{it} \leftrightarrow (w-1)$              |
|   |  | $if(t+4) e^{i(t+4)} \leftrightarrow (w-1) e^{i4w}$ |

$$-\frac{d^2}{dt^2} (e^{3t} u(t)) - if(t+4) e^{i(t+4)} \leftrightarrow \frac{w^2}{s-iw} + (w-1) e^{i4w}$$

⑤

$$F = -12\delta(w-6) + 24\delta(w) - 12\delta(w+6)$$

$$F = \frac{-6}{\pi} (e^{6it} + e^{-6it}) + \frac{12}{\pi}$$

$$= \frac{-12}{\pi} (\cos 6t + 1)$$

|   |   |                                      |
|---|---|--------------------------------------|
| $f(t) \leftrightarrow 1$                    | $f(t) \leftrightarrow 1$                    | $f(t) \leftrightarrow 1$             |
| $1 \leftrightarrow 2\pi \delta(w)$          | $1 \leftrightarrow 2\pi \delta(w)$          | $1 \leftrightarrow 2\pi \delta(w)$   |
| $e^{6it} \leftrightarrow 2\pi \delta(w-6)$  | $e^{-6it} \leftrightarrow 2\pi \delta(w+6)$ | $1/\pi \leftrightarrow 2\delta(w)$   |
| $e^{-6it} \leftrightarrow 2\pi \delta(w-6)$ | $-6e^{-6it} \leftrightarrow -12\delta(w+6)$ | $12/\pi \leftrightarrow 24\delta(w)$ |
| $-6e^{6it} \leftrightarrow -12\delta(w-6)$  |   |                                      |