

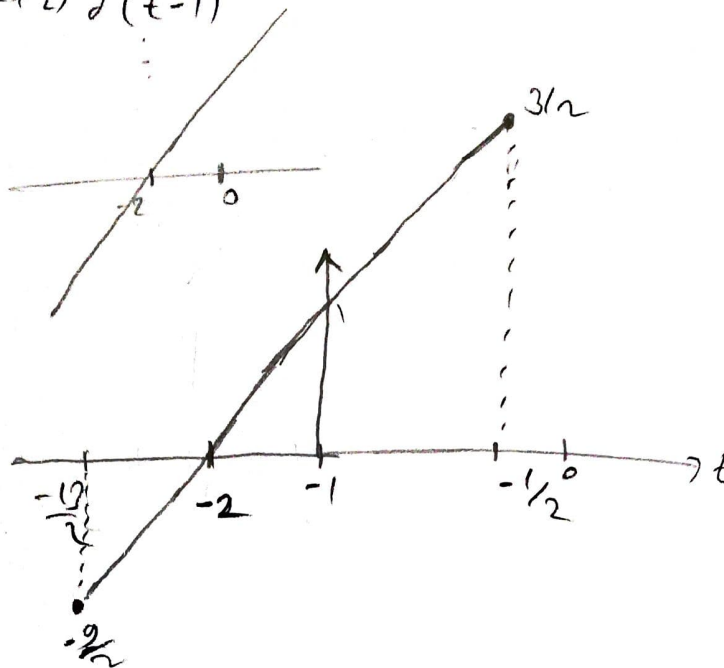
Q3) $g(t) = \sum_{k=0}^{\infty} (t+2) \delta(t-k+1)$ Yours Error Ertung
 $t \in (-\frac{1}{2}, -\frac{13}{2})$

a)

$k=0 \quad (t+2) \delta(t+1) \rightarrow \checkmark$
 $k=1 \quad (t+2) \delta(t)$
 $k=2 \quad (t+2) \delta(t-1)$
 \vdots

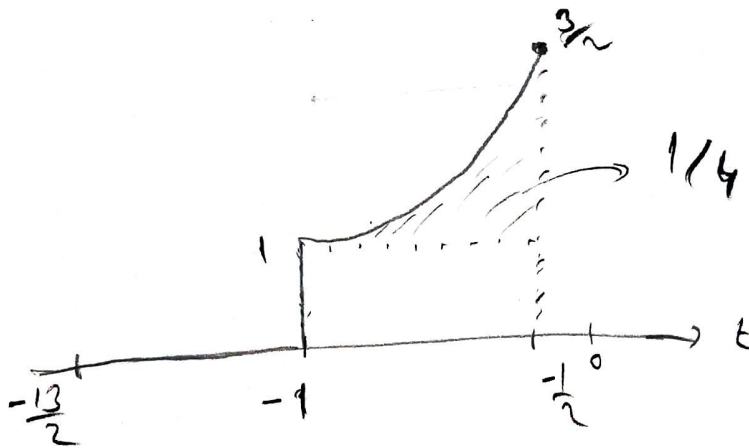
$t+2 \Rightarrow$

$g(t) =$



b) $\int_{-\infty}^t g(s) ds, \quad t \in (-\frac{1}{2}, -\frac{13}{2})$

integral of dirac delta is unit step



$-1, -\frac{1}{2}, \dots$

Q4) LTI system

$$\begin{bmatrix} 2 & 3 & 1 & 1 \end{bmatrix} \rightarrow \begin{bmatrix} 4 & 4 & 2 & 5 \end{bmatrix}$$

$$\begin{bmatrix} 0 & -1 & 3 \end{bmatrix} \rightarrow \begin{bmatrix} 0 & 1 & 2 & -1 \end{bmatrix}$$

$$3 \ 0 \ \underline{1} \ 1 \rightarrow ?$$

$$-1 \times \begin{bmatrix} 2 & 3 & 1 & 1 \\ 0 & -1 & 3 & 0 & 0 \end{bmatrix} \rightarrow \begin{bmatrix} 4 & 4 & 2 & 5 \\ 0 & 1 & 2 & -1 \end{bmatrix} \quad \begin{matrix} 2 \text{ left} \\ 1 \text{ left} \\ -1 \times \end{matrix}$$

$$\begin{bmatrix} 3 & 0 & 1 & 1 \end{bmatrix} \rightarrow \begin{bmatrix} -1 & 2 & 5 & 2 & 5 \end{bmatrix}$$

$$3 \ 0 \ \underline{1} \ 1 \rightarrow \begin{bmatrix} -1 & 2 & \underline{5} & 2 & 5 \end{bmatrix}$$

ANSWER

$$\begin{array}{r} \begin{matrix} 4 & 0 & 2 & 5 \\ 0 & 1 & 3 & -1 & 0 & 0 \end{matrix} \\ -1 \times \begin{bmatrix} 2 & 3 & 1 & 1 \\ 0 & -1 & 3 & 0 & 0 \end{bmatrix} \\ \hline \begin{bmatrix} -1 & 2 & 5 & 2 & 5 \end{bmatrix} \end{array}$$