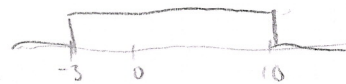


2.2. Consider the signal $h[n] = \left(\frac{1}{2}\right)^{n-1} \{u[n+3] - u[n-10]\}$.

Express A and B in terms of n such that $h[n-k] = \begin{cases} \left(\frac{1}{2}\right)^{n-k-1} & A \leq k \leq B \\ 0 & \text{elsewhere.} \end{cases}$



$$\begin{aligned}
 h[n-k] &= \left(\frac{1}{2}\right)^{n-k-1} \cdot (u[n-k+3] - \cancel{u[n-k-10]} u[n-k-10]) = \\
 &= \begin{cases} \left(\frac{1}{2}\right)^{n-k-1} & \text{if } n-k+3 \geq 0, n-k-10 < 0 \Leftrightarrow k \leq n+3, k \geq n-10 \Leftrightarrow n-10 \leq k \leq n+3 \\ 0 & \text{if } n-k+3 < 0, n-k-10 < 0 \text{ or } n-k+3 \geq 0, n-k-10 \geq 0 \\ -\left(\frac{1}{2}\right)^{n-k-1} & \text{if } n-k+3 < 0, n-k-10 \geq 0 \Leftrightarrow k \geq n+3, k \leq n-10 \Leftrightarrow n+3 \leq n-10 \quad \# \end{cases} = \\
 &= \begin{cases} \left(\frac{1}{2}\right)^{n-k-1} & \text{if } n-10 \leq k \leq n+3 \\ 0 & \text{otherwise} \end{cases}
 \end{aligned}$$

$$\boxed{A = n-10, \quad B = n+3}$$