29. Let $h(t) = e^{2t}\,u(-t+4) + e^{-2t}\,u(t-5)$.

Determine A and B such that

$$h(t-\tau) = \begin{cases} e^{-2(t-\tau)}, & \tau < A \\ 0, & A < \tau < B \\ e^{2(t-\tau)}, & B < \tau \end{cases}$$

$$h(t-\tau) = e^{2(t-\tau)}\,u(-(t-\tau)+4) + e^{-2(t-\tau)}\,u(t-\tau-5) = \begin{cases} e^{2(t-\tau)}, & \text{if } -t+\tau+4 \geq 0 \\ \text{else where} \end{cases}$$

$$= \begin{cases} e^{2(t+\tau)}, & \overbrace{-t+\tau+4 \geq 0}^{\tau \geq t-4} \\ 0, & \text{else where} \end{cases} + \begin{cases} e^{-2(t-\tau)}, & \overbrace{t-\tau-5 \geq 0}^{\tau \leq t-5} \\ 0, & \text{else where} \end{cases} = \begin{cases} e^{-2(t-\tau)}, & \tau \leq t-5 \\ 0, & t-5 \leq \tau \leq t-4 \\ e^{2(t-\tau)}, & t-4 \leq \tau \end{cases}$$

$\boxed{A = t-5, \quad B = t-4}$