Laplace Transform of an Exponential

The Laplace Transform of the signal

$$g(t) = \begin{cases} e^{at}, & t \geq 0 \\ 0, & t < 0 \end{cases}$$

is

1. $G(s) = \frac{1}{s+a}$, $\quad \text{Re}[s] > a$.
2. $G(s) = \frac{1}{s-a}$, $\quad \text{Re}[s] > a$.
3. $G(s) = \frac{1}{s+a}$, $\quad \text{Re}[s] > -a$.
4. $G(s) = \frac{1}{s-a}$, $\quad \text{Re}[s] > -a$.
5. Don’t know

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Region of Convergence

The Laplace Transform of the signal

$$g(t) = \sigma(t)\left[e^{-2t} - 2e^{t}\right]$$

has region of convergence

1. Re$[s] > -2$.
2. Re$[s] < -2$.
3. Re$[s] > 1$.
4. Re$[s] < 1$.
5. Don’t know

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