QUESTION

Find the inverse Laplace transform of the function $\dfrac{1}{s^2 + 2s + 2}$

ANSWER

$$\mathcal{L}^{-1}\left\{\frac{1}{s^2 + 2s + 2}\right\} = \mathcal{L}^{-1}\left\{\frac{1}{(s + 1)^2 + 1}\right\} = e^{-t}\sin(t)$$