

Quiz 8, April 13, 2017, 11:40 class

Find the inverse Laplace transform of $F(s) = \frac{1}{s^2+4s+4}$.

Answer:

$$\mathcal{L}^{-1}\left(\frac{1}{s^2+4s+4}\right) = \mathcal{L}^{-1}\left(\frac{1}{(s+2)^2}\right) = \boxed{te^{-2t}}.$$

We used $\mathcal{L}^{-1}\left(\frac{1}{s^2}\right) = t$ and $\mathcal{L}(e^{at}f(t)) = F(s-a)$ where $\mathcal{L}(f(t)) = F(s)$.