

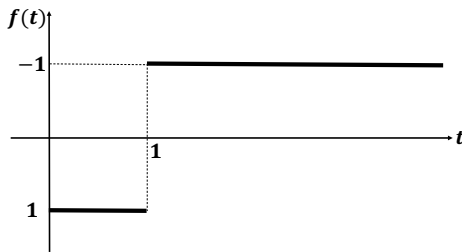
The Laplace Transform: Definition

Use the definition of the Laplace transform:

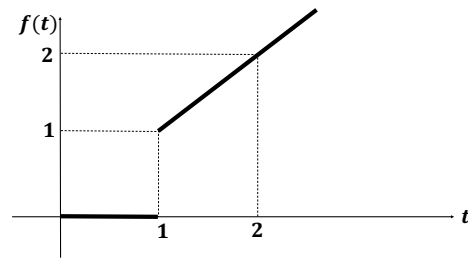
$$\mathcal{L}\{f(t)\} = \int_0^{\infty} e^{-st} f(t) dt$$

to determine $\mathcal{L}\{f(t)\}$ for the functions $f(t)$, with $t > 0$, defined below. Make sure to specify the frequency domain (s) as well.

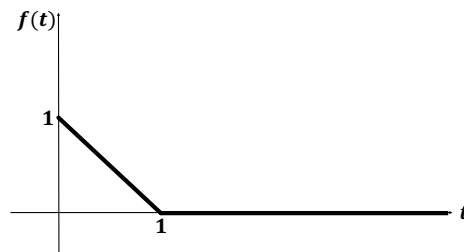
1.



2.



3.



4. $f(t) = e^{t+7}$.

5. $f(t) = te^{4t}$.

6. $f(t) = t \cos t$.

7. $f(t) = t \sin t$.

8. $f(t) = e^{-t} \sin t$.