6.1: Laplace Transforms

Examples:
If $f(t) = 1$, find $\mathcal{L}\{f(t)\}$.

If $f(t) = e^{at}$, find $\mathcal{L}\{f(t)\}$

If $f(t) = \begin{cases} e^{at} & \text{if } 0 \leq t \leq \frac{1}{a} \\ 0 & \text{otherwise} \end{cases}$, find $\mathcal{L}\{f(t)\}$

If $f(t) = \cos(at)$, find $\mathcal{L}\{f(t)\}$

If $f(t) = 4e^{3t} - 5\cos(2t)$, find $\mathcal{L}\{f(t)\}$