

1. P. 378 #6
2. P. 379 #34
3. P. 379 #40
4. P. 384 #12
5. P. 384 #32
6. If $f(t)$ is continuous for $t \geq 0$, the *Laplace transform* of f is the function F defined by

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

and the domain of F is the set consisting of all numbers s for which the integral converges. Find the Laplace transforms of the following functions and specify the domain of each Laplace transform.

- (a) $f(t) = 1$
- (b) $f(t) = e^t$