

PROBLEM SET #3**Chapter 15, Solution 2.**

$$(a) \quad f(t) = \cos(\omega t)\cos(\theta) - \sin(\omega t)\sin(\theta)$$

$$F(s) = \cos(\theta)L[\cos(\omega t)] - \sin(\theta)L[\sin(\omega t)]$$

$$F(s) = \frac{s\cos(\theta) - \omega\sin(\theta)}{s^2 + \omega^2}$$

Chapter 15, Solution 5.

$$(d) \quad 2e^{-(t-1)}u(t) = 2e^1 e^{-t}u(t)$$

$$L[2e^{-(t-1)}u(t)] = \frac{2e}{s+1}$$

Chapter 15, Solution 7.

$$(b) \quad G(s) = \frac{4}{s} + \frac{3}{s+2}$$