

Assignment 6 answers

Page 223, #18. Transient solution is

$$\frac{17}{10}e^{-t} \sin t + \frac{1}{10}e^{-t} \cos t$$

and the steady state solution is

$$\frac{1}{5} \sin 2t - \frac{1}{10} \cos 2t$$

Page 239, #8. $F(s) = \frac{1}{(s+3)^2}$

Page 239, #28. $F(s) = \frac{1-e^{-3s}}{s^2}$

Page 246, #4. $Y(s) = \frac{3}{s} - \frac{5}{s^2} - \frac{66}{s^4}$

Page 246, #24. $Y(s) = \left(\frac{s}{s^2+4} + \frac{3}{s^2+9} - s\right) / (s^2 + s + 2)$