

Homework 2

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Homework 2

Problem 1

$$\begin{aligned}\frac{s\omega(s)}{0.25} &= \frac{2.5(s+2)}{(s+5)(s+1)^2} \\ \omega(s) &= \frac{5}{8} \left(\frac{s+2}{s(s+5)(s+1)^2} \right) \\ \omega(s) &= \frac{5}{8} \left(-\frac{7}{16(s+1)} + \frac{3}{80(s+5)} - \frac{1}{4(s+1)^2} + \frac{2}{5s} \right) \\ \omega(t) &= \frac{5}{8} \left(-\frac{1}{4}te^{-t} + \frac{3e^{-5t}}{80} - \frac{7e^{-t}}{16} + \frac{2}{5} \right)\end{aligned}$$

Problem 6

Homework 3

Problem 2

Problem 3

Problem 4