Final Project Write-Up

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$$x(t) = \frac{20\tau e^{-\frac{t}{\tau}}\left(\tau\omega\sin(t\omega) + e^{t/\tau} - \cos(t\omega)\right)}{\tau^2\omega^2+1} = \frac{20\tau - \tau x'(t) + \tau^2\omega + y'(t)}{\tau^2\omega^2+1}$$

$$y(t) = -\frac{20\tau e^{-\frac{t}{\tau}}\left(\tau\omega e^{t/\tau} - \tau\omega\cos(t\omega) - \sin(t\omega)\right)}{\tau^2\omega^2+1}$$

$$z(t) = 2\tau e^{-\frac{t}{\tau}}\left(e^{t/\tau} - 1\right)$$