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MATH 237-54
Quiz #2

1) $\frac{dy}{dt} - 4y = e^{4t}$ let n = number of letters in your first name

$y_h = Ce^{4t}$

$y_p = v(t)e^{4t}$

$y_p' = v'(t)e^{4t} + v(t)4e^{4t}$

$\Rightarrow y_p' - 4y_p = e^{4t}$

$v'(t)e^{4t} + v(t)4e^{4t} - 4v(t)e^{4t} = e^{4t}$

$v'(t)e^{4t} = e^{4t}$

$v'(t) = 1$

$v(t) = t$

$\Rightarrow y_p = v(t)e^{4t} \Rightarrow \boxed{y_p = te^{4t}}$