Quiz 5, Math 246, Professor David Levermore
Tuesday, 8 October 2019

Your Name:

Discussion Instructor (circle one):   Sam Potter   Nathan Yu   David Russell
Discussion Time (circle one):   9:00   11:00   12:00

No books, notes, calculators, or any electronic devices.
Show your reasoning for full credit. Good luck!

(1) [2] Given that e^{-2t} is a particular solution of the equation
$$w'' + 4w' + 20w = 16e^{-2t},$$
give a real general solution.

(2) [3] Give the degree, characteristic, and multiplicity for the forcing term of the equation
$$u'' + 4u' + 20u = 5t^3 e^{-2t} \sin(4t).$$

(3) [5] Find a particular solution of the equation
$$v'' - 8v' + 16v = 32e^{4t}.$$