Quiz 6, Math 246, Professor David Levermore
Thursday, 15 October 2020

This formative assessment helps you see how well you understand the material. To get an accurate assessment please do not use books, notes, or electronic aids. Show your reasoning for full credit. Good luck!

(1) [3] Give the degree, characteristic, and multiplicity for the forcing term of the equation
$$v'' + 6v' + 45v = 4t^2 e^{-3t} \cos(6t) \,.$$

(2) [3] Find a particular real solution of the equation
$$y'' - 4y' + 4y = 32e^{2t} \,.$$

(3) [4] Find a particular real solution of the equation
$$\ddot{x} + 2\dot{x} + 5x = 10\cos(t) \,.$$