

YOUR NAME: _____

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Read each problem **very carefully** before starting to solve it. Each problem is worth 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. Solve the initial value problem

$$y'' + 9y = \cos t - u_{2\pi} \cos(t - 2\pi), \quad y(0) = 0, \quad y'(0) = 0.$$

2. Solve the initial value problem

$$y'' + 3y' + 2y = \delta(t - 5) + u_{10}(t), \quad y(0) = 0, \quad y'(0) = 0.$$