

YOUR NAME: _____

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

1. [6 points] Solve the initial value problem

$$\frac{dy}{dt} + 2ty = t, \quad y(0) = \frac{15}{2}.$$

2. [6 points] Solve the differential equation

$$\frac{dy}{dt} + \frac{3y}{t+1} = (t+1)^4.$$