

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

$$\frac{dy}{dt} = 2y + 1, \quad y(0) = \frac{11}{2}, \quad y > 0.$$

2. [4 points] Solve the differential equation

$$\frac{y^2}{8t^2} \cdot \frac{dy}{dt} = e^{8t^3}.$$