

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. [4 points] Find the particular solution of

$$\frac{dy}{dt} - 3y = e^{t/2}, \quad y(0) = \frac{10}{3}.$$

2. [6 points] Find the general solution of

$$t^2 y' + 4ty = e^{-t}.$$