Please show **all** your work! Answers without supporting work will not be given credit. Write answers in spaces provided.

Name:_____

1. **[5 pts]** What is the **integrating factor** of the following differential equation?

$$2y' + \left(\frac{6}{x}\right) y = 10 \ln(x)$$

$$u(x) = \underline{\hspace{5cm}}$$

2. **[5 pts]** What is the **integrating factor** of the following differential equation?

$$(x+1)\frac{dy}{dx} - 2(x^2 + x)y = (x+1)e^{x^2}$$

$$u(x) = \underline{\hspace{5cm}}$$