

**APPM 1360**

**Spring 2022**

**Quiz 5**

**03/01/2022**

**Time Limit: 10 Minutes**

**Name:** \_\_\_\_\_

Recitation Section: \_\_\_\_\_

---

1. (10 points) The following questions are unrelated.

(a) Find the solution to the differential equation

$$\frac{dy}{dx} = xe^{x^2-y}$$

that satisfies the initial condition  $y(1) = \ln 4$ .

(b) Is the following sequence convergent or divergent? (Justify your answer)

$$a_n = \frac{n!}{(n+2)!}$$