Math 202-Section 15 Quiz 2

Sr. Num.: ID. Num.: Name:

Q A: [4 points] Find the solution of the initial value problem:

$$cos(x)\,\frac{dy}{dx} + sin(x)\,y = cos^3(x); \qquad y(0) = -1.$$

Q B: Consider the nonlinear first-order differential equation:

$$[2y\,e^{2x} - y\cos(xy) + 2x]dx + [e^{2x} - x\cos(xy)]dy = 0.$$

- Check whether this differential equation is Exact. [2 points]

- Find the general solution. [4 points]