

Quiz #10**Name:** _____**StudentID:** _____**Major:** _____**Time:** 20 minutes.

Justify your solutions and show all your steps. Write down formulae used. Make sure to look on the back side of this sheet.

1. If $\int f(x)dx = (7x - 3)^{10} + C$, what is $f(x)$?

2. Find du for $u = 2x^5 + 9$.

3. Evaluate the integral: $\int x e^{2x^2} dx$.

4. Show that $y = C e^{kt}$ is a general solution to the differential equation $\frac{dy}{dt} = kt$.