You must show **all** work to receive full credit. All work is to be your own.   09/28/2020

This is a closed books and notes test. Be organized.   Total points: **20**   19:44- 19:57

1. §10.1 Line Integral. Work done by a force. Calculate $\int_C \mathbf{F}(\mathbf{r}) \cdot d\mathbf{r}$ for the following data. If $\mathbf{F}$ is a force, this gives the work done in the displacement along C. (Show the details.)

   $\mathbf{F} = [e^{-x},\ e^{-y},\ e^{-z}]$, $C : \mathbf{r} = [t,\ t^2,\ t]$ from $(0, 0, 0)$ to $(2, 4, 2)$.   10 points

2. §10.2 Show the form under the integral sign is exact in space and evaluate the integral. Show the details of your work.   10 points

$$\int_{(5,3,\pi)}^{(3,\pi,3)} (\cos yz \, dx - xz \sin yz \, dy - xy \sin yz \, dz)$$