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.)

   $\mathbf{F} = [x+y,\ y+z,\ z+x]$, $C : \mathbf{r} = [2t,\ 5t,\ t]$ from $t = -1$ to 1.　10 points

2. §10.2 Check for **Path Independence** and, if independent, integrate from $(0,0,0)$ to (a,b,c). (Show the details of your work.) 10 points

$$(\cos(x^2 + 2y^2 + z^2))(2x\,dx + 4y\,dy + 2z\,dz)$$