Quiz 10 (10mins, 20pts)

Please write down your name, SID, and solutions discernably.

Name : SID : Score :

1. (10pts) Evaluate the integral by making an appropriate change of variables.

$$\iint_R (x+y)e^{x^2-y^2}\,dA$$

, where R is the rectangle enclosed by the lines $x-y=0$, $x-y=2$, $x+y=0$, and $x+y=3$.

2. (10pts) Evaluate the line integral

$$\int_C (x^2 + y^2 + z^2) ds$$

, where $C : x = t$, $y = \cos 2t$, $z = \sin 2t$, $0 \leq t \leq 2\pi$.