

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

October 5

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

19:44-19:57

1. §10.4 Evaluation of Line Integrals by Green's Theorem.

20 points

Using Green's Theorem, evaluate  $\oint_C \mathbf{F}(\mathbf{r}) \cdot d\mathbf{r}$  counterclockwise around the boundary curve  $C$  of

the region  $R$ , where

$$\mathbf{F} = [\cosh y, -\sinh x], \quad R: 1 \leq x \leq 3, \quad x \leq y \leq 3x$$