Fall 2020 ENG 5300 Quiz 2 Kevin Weltzin

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. 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 $\mathbf{F} = [x^2y^2,\ -x/y^2]$, $R:\ 1 \le x^2 + y^2 \le 4,\ x \ge 0,\ y \ge x$. 20 points

   Hint: Polar coordinates: $dA = r\,dr\,d\theta,\ \ r \ge 0,\ \ x = r\cos\theta,\ \ y = r\sin\theta$