

Name: _____

MA 3330: Quiz 8

1. $\iint_R \sin(x-y) \cos(x+y) dA$ over the region defined the lines $y = x + 2$, $y = x + 4$, $y = -x$ and $y = -x + 3$. Hint the change of variables is $u = x - y$ and $v = x + y$.
2. $\iint_R \frac{x-y}{2x+y} dA$ over the region defined the lines $y = x + 2$, $y = x$, $y = -2x + 2$ and $y = -2x + 3$.
3. $\iint_R xy dA$ over the region defined the graphs of $xy = 1$, $xy = 3$ and the lines $y = x$ and $y = 3x$. Hint $x = u/v$ and $y = v$.
4. $\iint_R (x-y)e^{x^2-y^2} dA$ over the region defined the lines $y = x + 2$, $y = x$, $y = -x$ and $y = -x + 3$.
5. $\iint_R e^{x^2+4y^2} dA$ over the region defined by the portion of the ellipse $\frac{x^2}{2} + y^2 = 1$ in the third quadrant. Hint use the change of variables $x = 4v \cos(u)$ and $x = v \sin(u)$. And note I had $0 \leq u \leq 2\pi \dots$