Math 301-01 Quiz #2
Name:..... ID:.....

Exercise #1: Use Greens' theorem to evaluate

$$I = \oint_C e^{2x}\sin(2y)dx + e^{2x}\cos(2y)dy$$

where C is the ellipse $9(x-1)^2 + 4(y-3)^2 = 36$ oriented positively.

Exercise #2: Use Stokes' theorem to evaluate

$$J = \oint_C z^2 e^{x^2}dx + xy^2dy + \tan^{-1} ydz$$

where C is the circle $x^2 + y^2 = 9$, $z = 0$, by defining a surface S with C as its boundary.