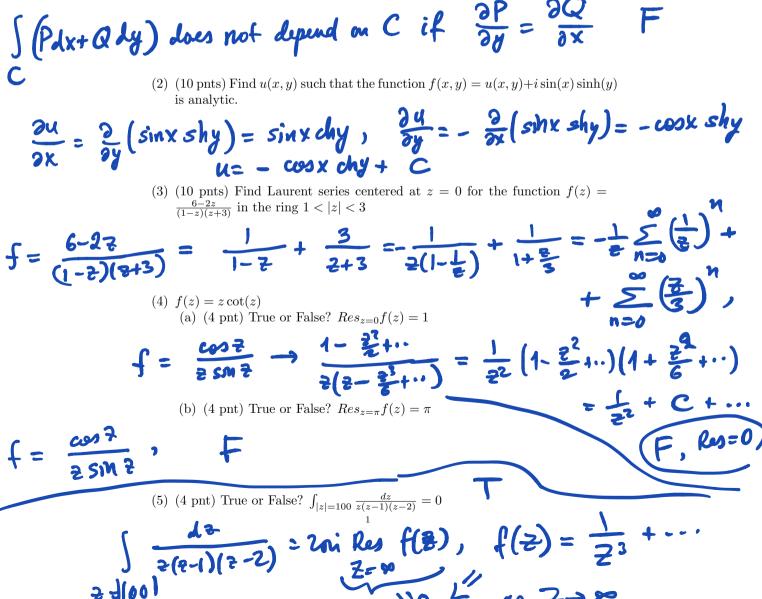
Midterm 2, 10/29.

- (1) $I_C = \int_C (ydx xdy)$ where C is a segment of a straight line starting at (0,0) and ending at (1,1), i.e. it can be described as $C = \{(x(t), y(t)) = (t,t), 0 \le t \le 1\}$.
 - (a) (4 pnts) True or False? $I_C = 0$

 $\int^{1} (t \, dt - t \, dt) = 0$ ((ydx - xdy) =(b) (4 pnts) True or False? The integral does not depend on continuous

b) (4 phts) frue of raise: The integral does not depend on continu deformations of C with fixed endpoints.



(6) (10 puts) Compute the integral
$$\int_{0}^{\infty} \frac{dx}{(x^{2}+1)(x^{2}+9)} = \int_{0}^{\infty} \frac{1}{(x^{2}+1)(x^{2}+9)} = \int_{$$

 $\mathbf{2}$