

Quiz #1

Please, type or write legibly, scan, save file as LASTNAME_FIRSTNAME.Q1.pdf and email to dlabate@math.uh.edu or dlabate@uh.edu. You need to email to me no later than 11:30AM on Jan 28.

Let $v = (v_1, v_2)$ and $u = (u_1, u_2)$ be vectors in \mathbb{C}^2 and let $M = \begin{pmatrix} a & i \\ -i & b \end{pmatrix}$ where a, b are fixed real numbers Prove that

$$\langle u, v \rangle = (\overline{v_1}, \overline{v_2}) M \begin{pmatrix} u_1 \\ u_2 \end{pmatrix}$$

is conjugate symmetric, that is, $\langle u, v \rangle = \overline{\langle v, u \rangle}$