UPDATED GENERAL INFORMATION — APRIL 27, 2018

Class cancellation May 4

There will be no class on Friday, May 4.

More quiz practice

Here are two more problems to study in connection with the quiz. These supplement but do not supersede the problem in `aabUpdate03.132.s18.pdf`.

1. If x is a vector in $\mathbb{C}^n$, define the conjugate $\overline{x} \in \mathbb{C}^n$ to be the vector whose coordinates are the complex conjgates of the coordinates for x. Find examples of vectors $x \in \mathbb{C}^2$ such that $\langle x, \overline{x} \rangle$ is a negative real number.

2. If $W \subset \mathbb{R}^5$ is the set of solutions for the homogeneous linear equation $x_1 - 2x_2 + 3x_3 - 2x_4 + x_5 = 0$ then we know that W is a 4-dimensional vector subspace. Explain why $\{(1, -2, 3, -2, 1)\}$ is a basis for the orthogonal complement $W^\perp$, and find the perpendicular projection of $(1, 1, 1, 1, 1)$ onto W without finding an orthogonal basis for W. [*Hints:* Find the perpendicular projection onto $W^\perp$ and use the fact that $W = W^{\perp\perp}$.]