

WORKSHEET 3/2/23
MATH 2331, SPRING 2023

- (1) Show that $|\vec{x} - \vec{y}|^2 = |\vec{x}|^2 + |\vec{y}|^2$ if \vec{x} and \vec{y} are orthogonal. Does this remind you of anything?
- (2) Let A be an $m \times n$ matrix, \vec{b} a vector in \mathbb{R}^m , and $V = \text{im}(A)$. Is the system $A\vec{x} = \text{proj}_V(\vec{b})$ consistent?