

Math 226.01: Differential Equations and Linear Algebra
Quiz 10
December 3, 1998

Name: _____

- (a) Use the Gram-Schmidt-process to find an orthogonal set of vectors w_1, w_2, w_3 spanning the same space $\text{span}\{v_1, v_2, v_3\}$ as the vectors given below.

$$v_1 = (0, 1, 1, 2), \quad v_2 = (0, 2, 0, 2), \quad v_3 = (5, -6, -8, 1).$$

- (b) Build the 3×4 -matrix $A = \begin{matrix} w_1 \\ w_2 \\ w_3 \end{matrix}$ having as rows the vectors computed in (a). Calculate the matrix product AA^t .

Sign the pledge: "On my honor, I have neither given nor received unauthorized aid on this Exam."

Signature: _____