

Put your answers in the space provided. Show your reasoning. Calculators may be used. The maximum score on this quiz is 6 points.

$$\text{Let } A = [\mathbf{a}_1, \mathbf{a}_2, \mathbf{a}_3] = \begin{bmatrix} 1 & 1 & 1 \\ 1 & 1 & 2 \\ 1 & 2 & 2 \\ 1 & 2 & 3 \end{bmatrix}$$

1. 5 points Use the Gram-Schmidt orthogonalization to find an orthogonal basis for the column space of A none of whose components are fractions. **Circle your answer.**

2. 1 point Find an orthonormal basis for column space of A . **Circle your answer twice.**