MATH 54 SUMMER 2017, QUIZ 21

Find an orthgonal basis for span$\{\mathbf{v}_1, \mathbf{v}_2, \mathbf{v}_3\}$.

$$\mathbf{v}_1 = \begin{bmatrix} 1 \\ 2 \\ 3 \\ 1 \end{bmatrix} \quad \mathbf{v}_2 = \begin{bmatrix} 3 \\ 5 \\ 5 \\ 2 \end{bmatrix} \quad \mathbf{v}_3 = \begin{bmatrix} 10 \\ 4 \\ 8 \\ 3 \end{bmatrix}$$