$\qquad$

Below is a basis. Find an orthogonal basis that spans the same space.

$$
\left\{\left[\begin{array}{l}
1 \\
0 \\
1 \\
0
\end{array}\right],\left[\begin{array}{l}
0 \\
2 \\
2 \\
0
\end{array}\right],\left[\begin{array}{l}
1 \\
1 \\
1 \\
1
\end{array}\right]\right\}
$$

