Reading Guide Section 4.4

**Section 4.4**

1. Define the term *span* of a set of vectors.
2. Read Example 2 (a) and (b) carefully. Can you see why span S is the set of vectors in the form $[ab0]^T$?
3. State Theorem 4.4 and read over the proof.
4. Study Example 4 - do you see why span S is the subspace of $2 \times 2$ diagonal matrices?
5. Define what it means for a set of vectors to span V. Provide an example of a set which spans $\mathbb{R}^3$.
6. Read Example 6. This is the method which we usually use to determine if a vector is in the span of given vectors.
7. Read Example 8. To determine if a set of vectors $S$ span a vector space, we check to see if an arbi