

4.4 Exercises

Problem: #1 Determine whether or not the given vectors in \mathbb{R}^4 form a basis for \mathbb{R}^4 .

$$\vec{v}_1 = (2, 0, 0, 0), \quad \vec{v}_2 = (0, 3, 0, 0), \quad \vec{v}_3 = (0, 0, 7, 6), \quad \vec{v}_4 = (0, 0, 4, 5)$$

Problem: #2 Find a basis for the **subspace** of \mathbb{R}^4 which consists of vectors of the form (a, b, c, d) such that $a = 3c$ and $b = 4d$.