

PRINT Your Name: _____

There are 10 problems on 5 pages. Each problem is worth 5 points. SHOW your work. **CIRCLE** your answer. **CHECK** your answer whenever possible.

No Calculators.

1. Define "basis". Use complete sentences. The vectors v_1, \dots, v_n are a basis for the vector space V if v_1, \dots, v_n are linearly independent and v_1, \dots, v_n span V .
2. Define "null space". Use complete sentences. The null space of the matrix A is the set of all vectors x with $Ax=0$.
3. Complete the following definition. The vectors v_1, v_2, \dots, v_n span the vector space V , if v_1, v_2, \dots, v_n are in V and every vector in V is equal to a linear combination of v_1, \dots, v_n .