Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ID\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Group\_\_\_\_\_\_\_\_\_\_

**Part I:** True (T) |False (F) questions. (1 mark each.)

1. \_\_\_\_\_ The empty subset of a vector space is linearly independent.
2. \_\_\_\_\_ In any vector space, any subset containing the zero vector is linearly independent.
3. \_\_\_\_\_ Any subset of a linearly independent set is also linearly independent.
4. \_\_\_\_\_ Any superset of a linearly independent set is also linearly independent.
5. \_\_\_\_\_ A spanning set is minimal if and only if it is linearly independent.
6. \_\_\_\_\_ The xy-plane subset of the vector space ℜ3  is linearly independent.

**Part II:** Answer the questions. (2 marks each.)

1. Determine whether ,a subset of ℜ3 , is linearly dependent or linearly independent.
2. Determine whether , a subset of M2x2. , is linearly dependent or linearly independent.