1.2.21: True or False (and short reason)

1. In some cases, a matrix may be row reduced to more than one matrix in reduced echelon form, using a different sequence of row operations.
2. The row reduction algorithm applies only to augmented matrices for a linear system.
3. A basic variable is a variable that corresponds to a pivot column in the coefficient matrix.
4. Finding a parametric description of the solution set of a linear system is the same as solving the system.
5. If one row in the echelon form of an augmented matrix is computed as [0 0 0 5 0], then the associated linear system is inconsistent.

1.2.22

1. The (row) reduced echelon form of a matrix is unique.
2. If every column of an augmented matrix contains a pivot, then the corresponding system is consistent.
3. The pivot positions in a matrix depend on whether row interchanges are used in the row reduction process.
4. A general solution of a system is an explicit description of all solutions of the system.
5. Whenever a system has free variables, the solution set contains many solutions.