Every elementary row operation is reversible. TRUE You can reverse multiplying by a constant by multiplying by its inverse. If you add row one to row two and replace row two, then you can subtract row one from row two to get it back.

A $5 \times 6$ matrix has six rows. FALSE It has 5 rows and six columns.

The solution set of a linear system involving variables $x_1, \ldots, x_n$ is a list of numbers $(s_1, \ldots, s_n)$ that makes each equation in the system a true statement when the values $s_1, \ldots, s_n$ are substituted for $x_1, \ldots, x_n$, respectively. FALSE This describes one element of the solution set, not the entire set.

Two fundamental questions about a linear system involve existence and uniqueness. TRUE
Elementary row operations on an augmented matrix never change the solution set of the associated linear system. TRUE

Two matrices are row equivalent if they have the same number of rows. FALSE They are row equivalent if you can get from one to the other using elementary row operations. Having the same number of rows is a necessary condition but is not sufficient to say that they are row equivalent.

An inconsistent system has more than one solution. FALSE An inconsistent system has no solutions.

Two linear systems are equivalent if they have the same solution set. TRUE If they have the same solution set, they both reduce to the same matrix in reduced row echelon form, since row operations are reversible, we can then reverse one set of these to get from one matrix to the other by row operations, thus they are row equivalent.