Difference Between Gaussian Elimination and Gauss-Jordan Elimination?

With examples would be greatly appreciated.

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Answers

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**Best Answer:**  Gaussian elimination and Gauss-Jordan elimination are both used to solve systems of linear equations, as well as finding inverses of non-singular matrices. If, using elementary row operations, the augmented matrix is reduced to row echelon form (REF), then the process is called Gaussian elimination. If the matrix is reduced to reduced row echelon form (RREF), the process is called Gauss-Jordan elimination. In the case of Gaussian elimination, assuming that the system is consistent, the solution set can be obtained by "back-substitution" whereas, if the matrix is in reduced row echelon form, the solution set can be obtained "directly" from the final matrix. For an example please watch the video [http://www.youtube.com/watch?v=CWd5UTKOx...](http://www.youtube.com/watch?v=CWd5UTKOxAE) - The presenter talks about the differences of the two methods starting at time 5:30 of the clip. (He has a deep accent which makes him hard to understand, but the writing is very clear.) The main difference is that Gaussian elimination brings the augmented matrix into the "lower triangular form" on the left side, but Gauss-Jordan makes the augmented matrix an "identity" matrix on the left.