## Precalculus Notes

## Lesson 8.1 Matrices and Systems of Equations Part 2

Example 1: Write the solution to the augmented matrix. $\left[\begin{array}{lll}1 & 0 & : \\ 0 & 1 & 12\end{array}\right]$

Gauss-Jordan Elimination continues the process of Gaussian elimination until the reduced row-echelon form matrix is obtained. Doing so eliminates the need for back substitution. The solution to the system can easily be found right in the matrix.

Example 2: Use Gauss-Jordan Elimination to solve the system.

$$
\left\{\begin{array}{l}
x-3 z=-5 \\
3 x+y-2 z=-4 \\
2 x+2 y+z=-2
\end{array}\right.
$$

Example 3: Use Gauss-Jordan Elimination to solve the system.

$$
\left\{\begin{aligned}
x-2 y+3 z & =9 \\
-x+3 y & =-4 \\
2 x-5 y+5 z & =17
\end{aligned}\right.
$$

