

## 2.4 Gauss-Jordan Elimination

### Suggested exercises: 1-15 odd

Instead of waiting until the end of Gaussian elimination to perform back addition, we can instead do it as we proceed through the matrix. While this might not seem like a big difference, it is important enough to go by the name *Gauss-Jordan elimination*. The act of choosing an entry, making it 1 and clearing everything above and below it is called *pivoting*.

**2 keys:**

- Gauss-Jordan elimination
- Pivots

### I Gauss-Jordan elimination

Gauss-Jordan elimination is done in the same way as Gaussian elimination, except for one step: after we clear all the entries below a leading 1, we also clear all the entries above it as well before moving on.

**Example.**

### II Pivots

When we choose an entry in a row, make it 1, and clear everything above and below, this procedure is called **pivoting**. We choose pivots when we proceed through Gauss-Jordan elimination.

**Example.**

**Example.**

## Further examples

Example.

Example.

Example.