

Learning to use correct mathematical language takes effort.

Here is a list of common misstatements (in italics). Understand why they are incorrect, and then avoid making them!

1. What is wrong with the following?

(a) *The solution set is inconsistent.*

(b) *The set is inconsistent.*

(c) *This matrix is inconsistent.*

A **linear system** can be inconsistent or consistent. A solution set, or a set, or a matrix cannot be inconsistent or consistent.

2. *There is no solution set for this system.*

There **always** is a solution set. Sometimes the solution set is the empty set, but this does not mean that that solution set does not exist.

3. The empty set is denoted by  $\phi$ , and not  $\{\phi\}$ .