

Determinacy

Whether statics alone can solve it.

Civil Engineering

A structure is statically determinate when equilibrium alone yields every reaction and member force.

Plane frame: $3m + r - 3j - c$ · Plane truss: $m + r - 2j$

Count comes to zero

Statics is enough.

Determinate

Count is positive

Needs compatibility.

Indeterminate

Count is negative

It moves, not a structure.

A mechanism

THE COMMON MISTAKE

✗ **Trusting the count on its own**

✓ **Check the geometry as well**

The arithmetic can balance while the structure is still a mechanism — three parallel reactions, for instance. Stability is geometric, not just a count.

Educational reference. Indeterminate structures are stiffer and carry redundancy, but need stiffness or force methods.