

Levelling

Civil Engineering

Carrying a height, and closing the loop.

Levelling carries a known height to unknown points using a horizontal line of sight and a graduated staff.

ORDINARY MISCLOSURE

Order $\pm 12\sqrt{K}$ mm, K in km

EQUAL SIGHT LENGTHS

Cancel collimation error

- Backsight is read on a point of known height
- Foresight is read on the point being fixed
- Collimation = known level plus the backsight
- Reduced level = collimation minus foresight
- Intermediate sights need no instrument move
- Always close back onto a known benchmark

LOOK FOR IT

A run that fails to close proves there is an error, but never says where it is.

Educational reference. Permitted misclosure depends on the class of levelling and the governing survey specification.