

Booking a Level Run

Civil Engineering

Rise and fall, and the check that balances.

Rise and fall method. The check is three equal differences.

1

Book each reading

Backsight, intermediate or foresight, one line per staff position.

2

Work out rise or fall

Compare each reading with the one immediately above it.

3

Carry the reduced levels

Add a rise or subtract a fall from the previous reduced level.

4

Total the four columns

Backsights, foresights, rises and falls, each summed.

5

Apply the check

$\Sigma BS - \Sigma FS = \Sigma \text{rise} - \Sigma \text{fall} = \text{last RL} - \text{first RL}.$

6

Close on a benchmark

Compare with the known level, then distribute the misclosure.

THE CHECK IN NUMBERS

ΣBS 4.215, ΣFS 3.100

Difference = +1.115

$\Sigma \text{rise} - \Sigma \text{fall} = +1.115$

Last RL – first RL = +1.115

Educational reference. The check proves arithmetic only. A misread staff still balances perfectly.