

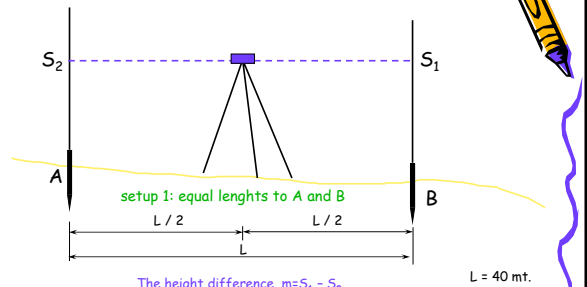
CE200 SURVEYING

Lecture 3.3
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TWO-PEG TEST (for a leveling instrument)

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Peg Test is a surveying operation carried out to determine if the leveling bubble and telescope line-of-sight are parallel.

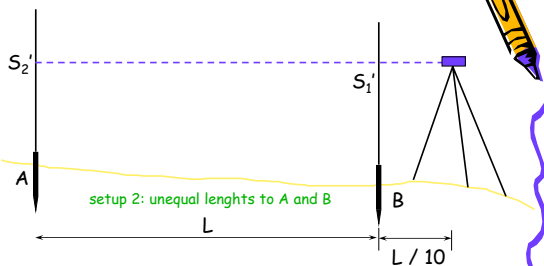


The height difference $m = S_1 - S_2$

$L = 40 \text{ mt.}$

If the instrument is the same distance from both staff positions, the errors are equal and cancel out.

Now move the instrument outside the pegs.



The height difference $m' = S_1' - S_2'$

If $m = m'$ then the instrument is OK!

If NOT then the error is $e = (S_1 - S_2) - (S_1' - S_2') / L \text{ mm/m}$

(The error is called collimation error.)

FIELDWORK 3-1-a

- Each subgroup will be required to perform a peg test to check the instrument.
- Each person in the subgroup should record the results of the peg test in their own fieldbook.
- Place two pegs about $L = 40\text{m}$ apart.
- Set up instrument midway between the two pegs.
- Read staff on each peg, and calculate height difference.
- Move instrument about $L / 10 = 4\text{m}$ beyond one of the pegs.
- Read staff on each peg again, and calculate height difference.

Collimation Error $\rightarrow e = \text{difference in the differences}$
Acceptable error: 1mm per 20m