

MATHEMATICS

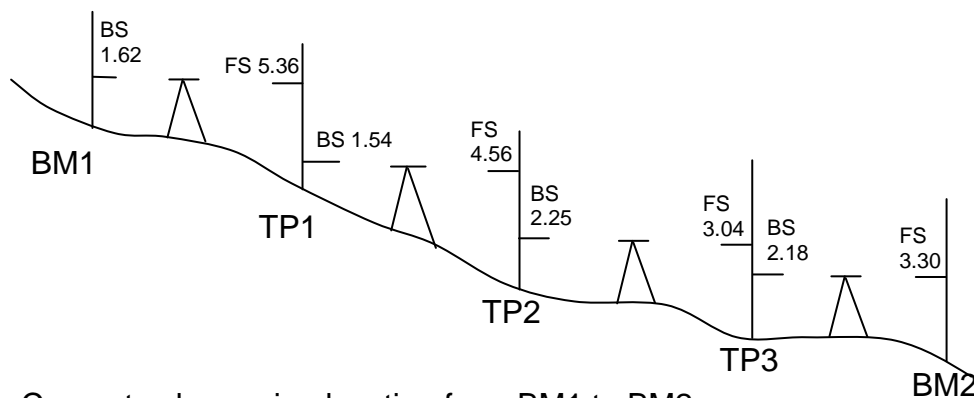
Level One

Levelling # 1

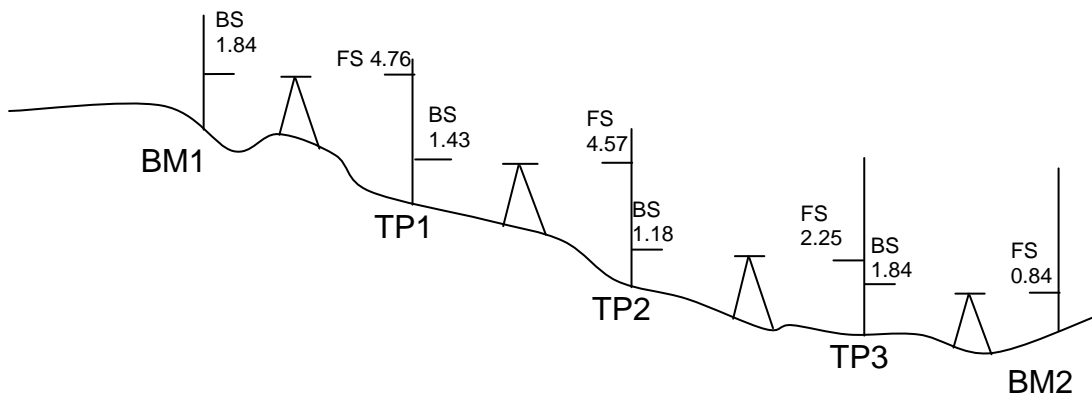
Levelling is a means of transferring height from one point to another. Typically, it involves placing a calibrated staff (reading 0.00 m at the bottom) on a point of known height (the backsight) and then moving it forward to a new point of unknown height (the foresight).

For this exercise, BM means 'benchmark', BS means 'backsight' and FS means 'foresight'. To get the change in height, between each TP you need to calculate: $\Delta H = BS - FS$.

- 1) Compute change in elevation (or height) from BM1 to BM2.



- 2) Compute change in elevation from BM1 to BM2



- 3) Upon calibration it was found that a given planimeter, when traced around the perimeter of an area, traces around an area of 10 square centimetres for each revolution.

What is the map area if the following net readings are obtained with this planimeter?

- a. 16.42 revolutions
- b. 36.54 revolutions