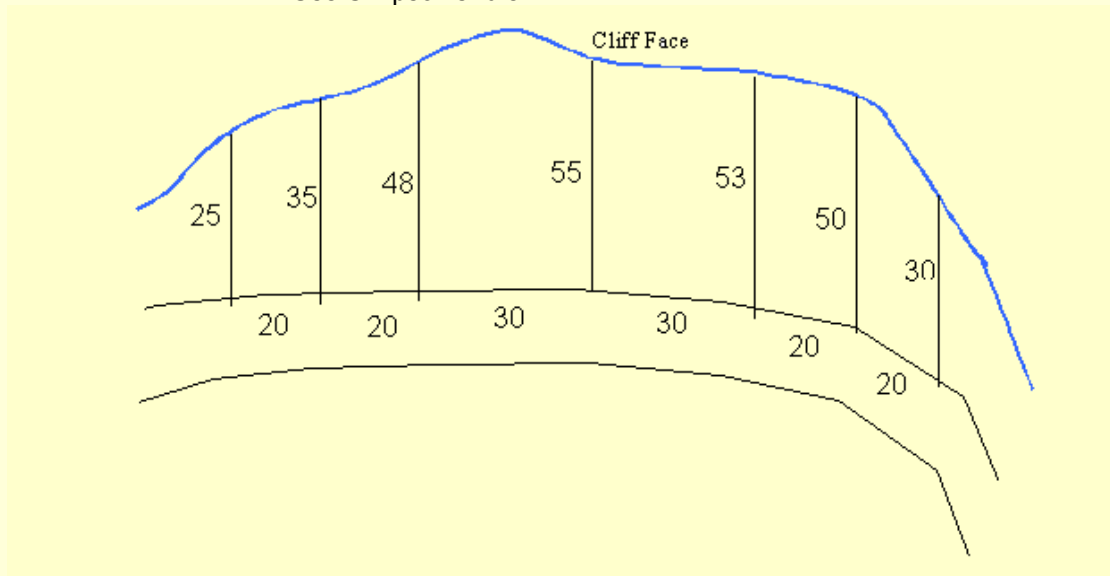


MATHEMATICS

Level Three

Area and Trig

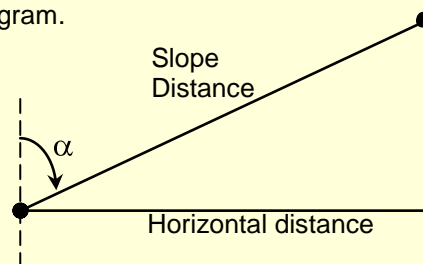
- 1) Calculate the area between the cliff face and the road
 - i. Use the Trapezium method.
 - ii. Use Simpson's rule.



- 2) When using a small hand level that reads to the closest 10 minutes we find that each angle of elevation (or depression) has an uncertainty of 5'. Given the following data, compute the range in uncertainty that exists in each horizontal distance. Where the angles given are represented by α in the diagram.

Bearing and Slope Distance

- i. $92^\circ 40'$ over 100m
- ii. $92^\circ 36'$ over 250m
- iii. $89^\circ 13'$ over 1000m
- iv. $79^\circ 25'$ over 10m
- v. $63^\circ 06'$ over 100m
- vi. $88^\circ 53'$ over 250m
- vii. $87^\circ 04'$ over 1000m
- viii. $90^\circ 15'$ over 10m



(Hint: find the horizontal distance when the bearing is increased and decreased by 5')

- 3) Using the diagram and attached information compute the elevation at the base of the rod.

