

# MATHEMATICS

## Level Two

### Trig Heights # 5

#### Task A

The following observations were taken from station A to station B and C

##### At station A to B

Instrument height	= 1.562m	Height of A	= 156.66m
Target Height	= 1.324m	Zenith Angle	= 89°32'12"
Slope Distance	= 251.65m		

##### At station A to C

Instrument height	= 1.562m	Zenith Angle	= 92°06'16"
Target Height	= 0.524m	Slope Distance	= 216.94m

- 1) Using the above information draw a diagram representing the information
- 2) Calculate the horizontal distance from A to B and A to C
- 3) Calculate the change in height between A and B (the two survey marks in the ground).
- 4) Calculate the change in height between the marks at C and B
- 5) Calculate the elevation of the marks at B and C
- 6) Shown below is a bird's eye view of what the surveying set out looks like, from the information you have already calculated and given that the measured angle ( $\theta$ ) between the two targets is 159°43'02". What is the horizontal distance between the two targets?

