SBET1083
ASSIGNMENT:
Trigonometric Heighting

Below are data observed from trigonometric heighting survey obtained by using theodolite. Calculate the reduced level of station B and C and the difference in height between the two stations (B and C).

Given:

Observation A-B:

Height of instrument at station A	= 1.520 metres
Vertical angle between station A and B (incline)	= 5° 20’ 00”
Height of prism at station B	= 1.5500 metres
Reduced level at station A	= 30.777 metres
Horizontal distance from A to B	= 245.455 metres

Observation A-C

Height of instrument at station A	= 1.520 metres
Vertical angle between station A and C (decline)	= - 3° 30’ 00”
Height of prism at station C	= 1.325 metres
Reduced level at station A	= 30.777 metres
Slope distance from A to C	= 214.524 metres

Please include diagrams in your answer. Label them appropriately and define them correctly in your calculations.