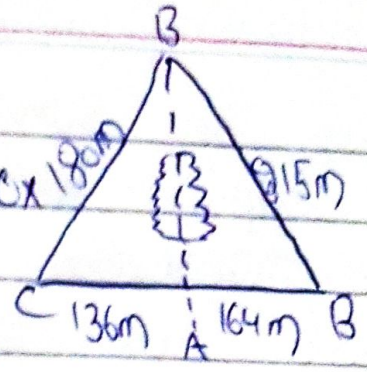
ID:- 15799

Subject:- Survey - 1

Modules:- 3rd Semester

Assignment

Solution:-



$$BD^2 = CB^2 + CD^2 - 2 \times CB \times CD \times \cos(C)$$

$$\therefore \cos C = \frac{CB^2 + CD^2 - BD^2}{2 \times CB \times CD}$$

$$\therefore \cos\phi = \frac{(180)^2 + (240)^2 - (215)^2}{2 \times 180 \times 240}$$

$$\therefore \cos\phi = \frac{16725}{104400}$$

$$\therefore \cos\theta = 0.6371$$

$$\therefore \theta = \cos^{-1}(0.6371)$$

$$\therefore \theta = 47.69^\circ$$

$$AB^2 = CB^2 + CA^2 - 2 \times CB \times CA \times \cos(\theta)$$

$$AB^2 = (180)^2 + (196)^2 - 2(180)(196)\cos(47.69)$$

$$AB^2 = 48276 - 45360 \cos(47.69)$$

$$AB^2 = 17442.24$$

Taking Square root on both sides

$$\sqrt{AB^2} = \sqrt{17442.24}$$

$$AB = \sqrt{17442.24}$$

$$AB = 132.07m$$

Base line:-

In survey a base line between two Points on the earth surface and the direction and distance between them in a triangulation network at least one base line needs to be measured to calcuate the size of the triangle

Tie line:-

A tie line joints two fixe points on the main survey line it helps to check the main survey line it helps to check the accuracy of survey and to locate the interior details the position of each tie line should be close to some feauture such as paths buildings etc

Tie station:-

Any point selected on the main survey line where it necessary to run the ore auxiliary line to locate the interior details such as fences hedges buildings etc when they are at some distance from the main survey line are know as subsidary or tie station

Well conditioned angle:-

A well conditioned triangle is a triangles is less then "30 degree" one of the way to survey the area to divide the entire area is similar smaller triangles and then take the

measurement of side of the triangle

Question no:- 04, Answer

Traverse is a method in the field of surveying to establish control networks it is also used in geodesy traverse network involes placing survey stations along a line or path of travel and then using the previously surveyed point as base for observing the next point

Closed traverse:-

A surveying traverse whose accuracy can be checked by the fact that when its closed the angles should add up to 360 degree and which ends at its starting point

Open traverse:-

A surveying that starts from a station of know or adopted position but does not terminate upon such as station and therefore does not competely enclose a polygon this is know as open traverse