Link Traverse:-المضلعات المفتوحة

وتستخدم طريقة قياس الزوايا الى اليمين (angles to right )

ولغرض تصحيح الزوايا المقاسة يستخدم القانون التالي:-

∑ Theor. Angle = A.z f – A.z i + n \*180°

Correction in angle = ∑ Theor. Angle - ∑ compute angle

Correction in angle

Correction / angle = ---------------------------

n

Ex:-

At a link Traverse blow , Calculate :-

1. Interior angle corrected
2. Az. For all sides
3. Coordinates for all points& total correction

A

B

J K

M

L

A.z AJ= 188°31′52″ R.B MB= N 35°20′12″E

<AJK =86°31′58″ <JKL =223°54′08″ <KLM =114°46′50″

<LMB =141°35′14″

J(3000,3000) M(3780.32,2670.18)

A .z MB = 35°20′12″

∑ Theor. Angle = A.z MB – A.z AJ + n \*180°

=35°20′12″- 188°31′52″ + 4\*180°=566°48′20″

|  |  |  |  |
| --- | --- | --- | --- |
| **Point** | **Angle to right** | **Corr.** | **Corr. Angle** |
| **J** | 86°31′58″ | **+ 0°0′3″** | 86°32′01″ |
| **K** | 223°54′08″ | **+ 0°0′2″** | 223°54′10″ |
| **L** | 114°46′50″ | **+ 0°0′3″** | 114°46′53″ |
| **M** | 141°35′14″ | **+ 0°0′2″** | 141°35′16″ |
| **∑** | **566°48′10″** | **+ 0°0′10″** | 566°48′20″ |

A.z JK = A.z AJ +180°+<AJK =188°31′52″+180°+86°32′01″

=455°3′53″=95°03′53″

A.z KL = A.z JK +180°+<JKL =95°03′53″+180°+223°54′10″

=498°58′03″=138°58′03″

A.z LM = A.z KL +180°+<KLM =138°58′03″+180°+114°46′53″

=433°44′56″=73°44′56″

A.z MB = A.z LM +180°+<LMB =73°44′56″+180°+141°35′16″

=395°20′12″=35°20′12″

O.K

Xk = Xj ± Dep A.z jk =3000 +ljk \*sin A.z jk

= 3000 +346.95 \*sin 95°03′53″=3345.6

Yk = Xj ± Lat A.z jk =3000 +ljk \*cos A.z jk

= 3000 +346.95 \*cos 95°03′53″=2969.7

XL = Xk ± Dep A.z KL =3345.6 +ljk \*sin A.z KL

= 3345.6 +449.76 \*sin 138°58′03″=3640.9

YL = Xk ± Lat A.z KL =2969.7 +ljk \*cos A.z KL

= 2969.7 +449.76 \*cos 138°58′03″=2630.4

Xm = XL ± Dep A.z Lm =3640.9 +lLm \*sin A.z Lm

= 3640.9 +144.82 \*sin 73°44′56″=3779.9

Ym = XL ± Lat A.z Lm =2630.4 +lLm \*cos A.z Lm

= 2630.4 +144.82 \*cos 73°44′56″=2670.9

∆ x=3780.32 -3779.9= + 0.42

∆y =2670.18 -2670000.9 = - 0.72

∑ L = 346.95+449.76+144.82 = 941.53

Xk′= Xk ±L jk /∑L \*∆x =3345.6 + 346.95/941.53 \*0.42

=3345.8

yk′= yk ±L jk /∑L \*∆y =2969.7 + 346.95/941.53 \*(-0.72)

=2969.4

XL′= XL ±L (jk+KL) /∑L \*∆x

=3640.9 +( 346.95+449.76)/941.53 \*0.42

=3641.3

yL′= yL ±L (jk+KL) /∑L \*∆y

=2630.4 + (346.95+449.76)/941.53 \*(-0.72)

=2629.8

Xm′= XL ±L( jk+KL+Lm) /∑L \*∆x

=3779.9 + (346.95+449.76+144.82)/941.53 \*0.42

=3780.3

ym′= yL ±L( jk+KL+Lm) /∑L\*∆y

=2670.9 + (346.95+440.76+144.82)/941.53 \*(-0.72)

=2970.2

O.k