Module1 - 1

Option Explicit

Public Function ToRad(Angle As Single) As Single
    ToRad = Angle / 180 * 3.14159
End Function

Public Sub Traverse()
    Dim Azimuth(1 To 6) As Single, Distance(1 To 6) As Single
    Dim Index As Integer
    Dim X0 As Single, Y0 As Single
    Dim x(1 To 6) As Single, y(1 To 6) As Single
    Dim deltax(1 To 6) As Single, deltay(1 To 6) As Single
    Dim Length(1 To 6), Perimeter As Single, Angle(1 To 6) As Single
    Dim AngleDeg(1 To 6) As Single
    Dim AngleMin(1 To 6) As Single
    Dim AngleSec(1 To 6) As Single
    X0 = 1000#
    Y0 = 1000#

    For Index = 1 To 6
        Azimuth(Index) = ActiveCell.Offset(Index - 1, 0).Value
        Distance(Index) = ActiveCell.Offset(Index - 1, 1).Value
        x(Index) = Distance(Index) * Sin(ToRad(Azimuth(Index))) + X0
        y(Index) = Distance(Index) * Cos(ToRad(Azimuth(Index))) + Y0
        ActiveCell.Offset(Index - 1, 2).Value = x(Index)
        ActiveCell.Offset(Index - 1, 3).Value = y(Index)
    Next Index

    Perimeter = 0#
    For Index = 1 To 5
        deltax(Index) = x(Index + 1) - x(Index)
        deltay(Index) = y(Index + 1) - y(Index)
        Length[Index] = (deltax(Index) ^ 2 + deltay(Index) ^ 2) ^ (1 / 2)
        Perimeter = Perimeter + Length(Index)
    Next Index
    deltax(6) = x(1) - x(6)
    deltay(6) = y(1) - y(6)
    Length(6) = (deltax(6) ^ 2 + deltay(6) ^ 2) ^ (1 / 2)
    Perimeter = Perimeter + Length(6)
    Range("A1").Value = Perimeter

    For Index = 1 To 6
        ActiveCell.Offset(Index - 1, 5).Value = Length(Index)
        Angle(Index) = ToDegree(GetAngle(deltax(Index), deltay(Index)))
        Call DegMinSec(Angle(Index), AngleDeg(Index), AngleMin(Index), AngleSec(Index))
        ActiveCell.Offset(Index - 1, 6).Value = AngleDeg(Index)
        ActiveCell.Offset(Index - 1, 7).Value = AngleMin(Index)
        ActiveCell.Offset(Index - 1, 8).Value = AngleSec(Index)
    Next Index
Public Function ToDegree(Angle As Single) As Single
    ToDegree = Angle / 3.14159 * 180#
End Function

Public Function GetAngle(dx As Single, dy As Single) As Single
    If dx >= 0# Then
        If dy > 0# Then
            GetAngle = Atn(dx / dy)
        Else
            GetAngle = 3.14159 - Atn(Abs(dx) / Abs(dy))
        End If
    Else
        If dy <= 0# Then
            GetAngle = 3.14159 + Atn(Abs(dx) / Abs(dy))
        Else
            GetAngle = 2 * 3.14159 - Atn(Abs(dx) / Abs(dy))
        End If
    End If
End Function

Public Sub DegMinSec(decang As Single, degang As Single, minang As Single, secang As Single)
    degang = Int(decang)
    decang = decang - degang
    minang = Int(decang * 60#)
    decang = decang * 60# - minang
    secang = decang * 60#
End Sub