

# ***Cogo for Phones and Tablets***

***The following slides will explain this application by demonstrating the various routines available. The interactive evaluation version allows only whole numbers (no decimals ) in those routines requiring input of distances, lengths and coordinates. This presentation does not reflect that restriction.***

# *Installation*

- *The application is installed by entering into the device's address bar the following:*
- ***[nsbapp.com/wgmdeval](http://nsbapp.com/wgmdeval)***
- *If you are installing into a 10" size then enter:*
- ***[nsbapp.com/wgmdipadeval](http://nsbapp.com/wgmdipadeval)***
- *Press 'Go' or whatever you use to open an application. The app will open.*

# First Screen

## Coordinate Geometry

for

Mobile Phones and Tablets

## Evaluation Version

This version is fully interactive but limits input of distances, lengths and coordinates to whole numbers only (no decimals). There are no restrictions in the purchased version. Your comments would be greatly appreciated. 801-254-7181 or jschuchert@comcast.net.

For best results, review the user manual first.

Menu of Cogo Routines

(2 pages)

Screens designed for portrait orientation

**Important to read the manual.**

**Menu is in 2 pages to facilitate finger presses**

**Explains the limitations of the evaluation version**

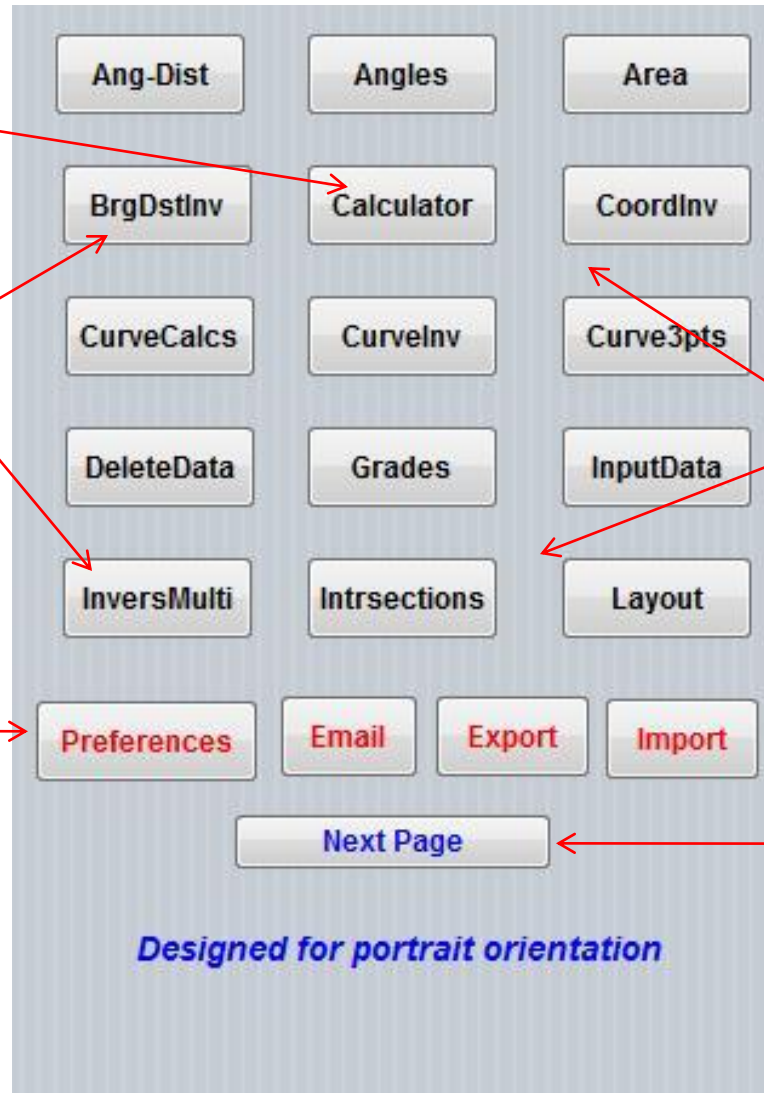
**Tap here to start the application**

# Page 1 of the Menu

*This button not available in evaluation (3<sup>rd</sup> party)*

*Labels abbreviated to fit buttons*

*Probably should set your preferences first*

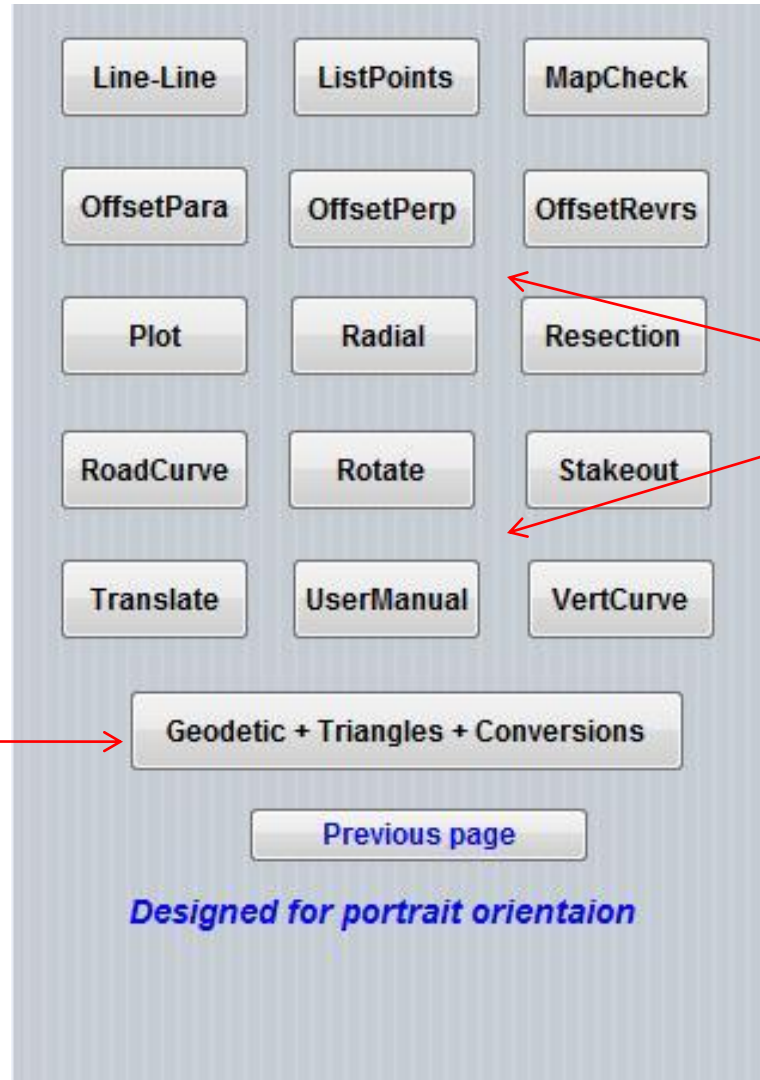


*Routines in alphabetical order left to right*

*Tap here for next menu page*

*Designed for portrait orientation*

# Page 2 of the Menu



*Continuation of routines*

*This button not available in evaluation (3<sup>rd</sup> party)*

*Designed for portrait orientaion*

# Preferences

*Preferences are optional. Defaults will be used if not changed.*

*Set number of decimal places. Default is 3*

*Use bearings or azimuths. Bearing is the default.*

*Tap here to set preferences*

Set values in the boxes below for how you prefer displays and calculations to be made.

3      Decimal places (0-5)

1      Distance multiplier

B      Bearing (B) or Azimuth (A)

Set Preferences      Menu

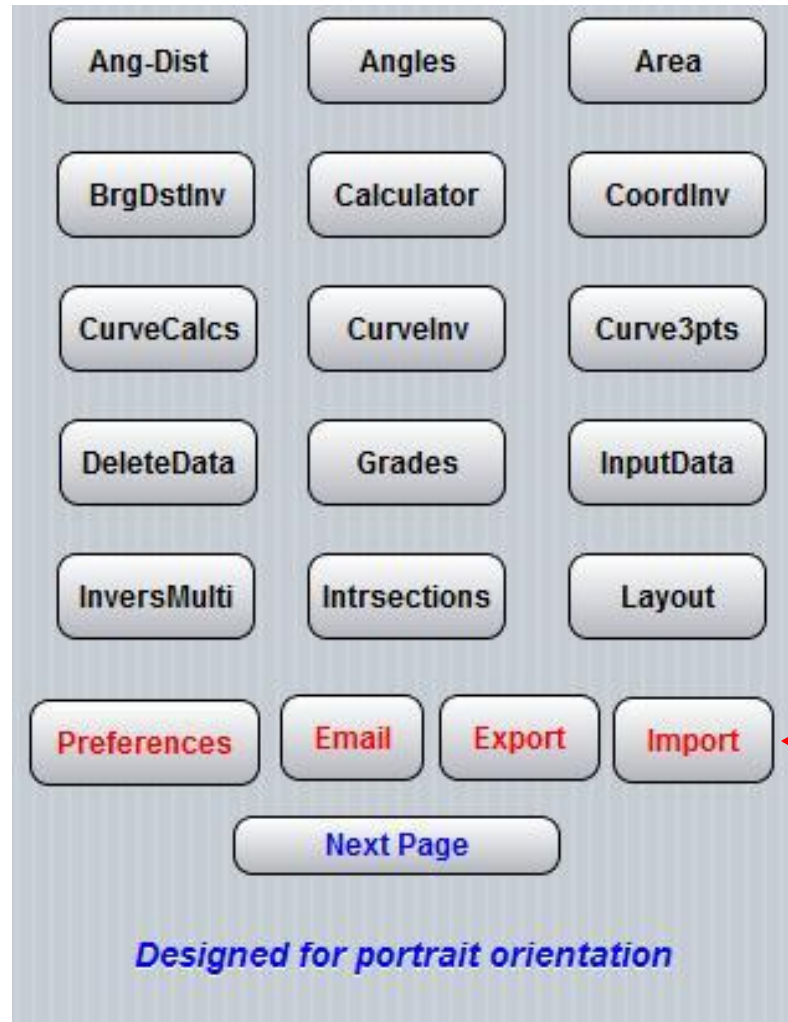
*Distances input in some routines will be multiplied by this number. Default is 1*

*Return to Menu*

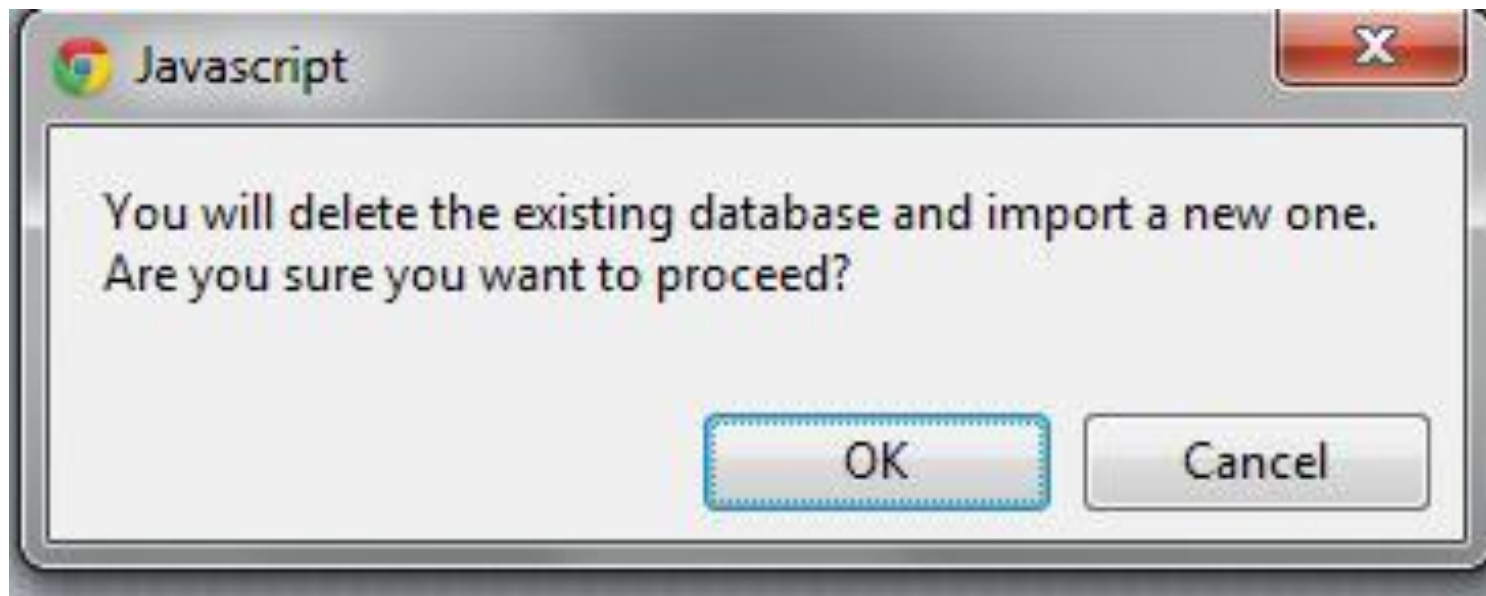
# *Let's go to work*

- *From now on the slides will show how the more popular routines operate and what you can expect from their performance. You may follow along on your device or just view the slides. All of the routines will not be covered but you will be able to get a good idea of how the application works.*

# *Back to the Menu*



*We will import the 10 point sample file by selecting this button.*



***You will receive this warning message. It is telling you that you will replace the existing database for a new one. Since this is what we want to do, we will tap OK. The dialogue closes and the database has been imported.***



*Verify the points are there by going to page 2 of the menu and selecting ListPoints.*

## List Points With Their Data

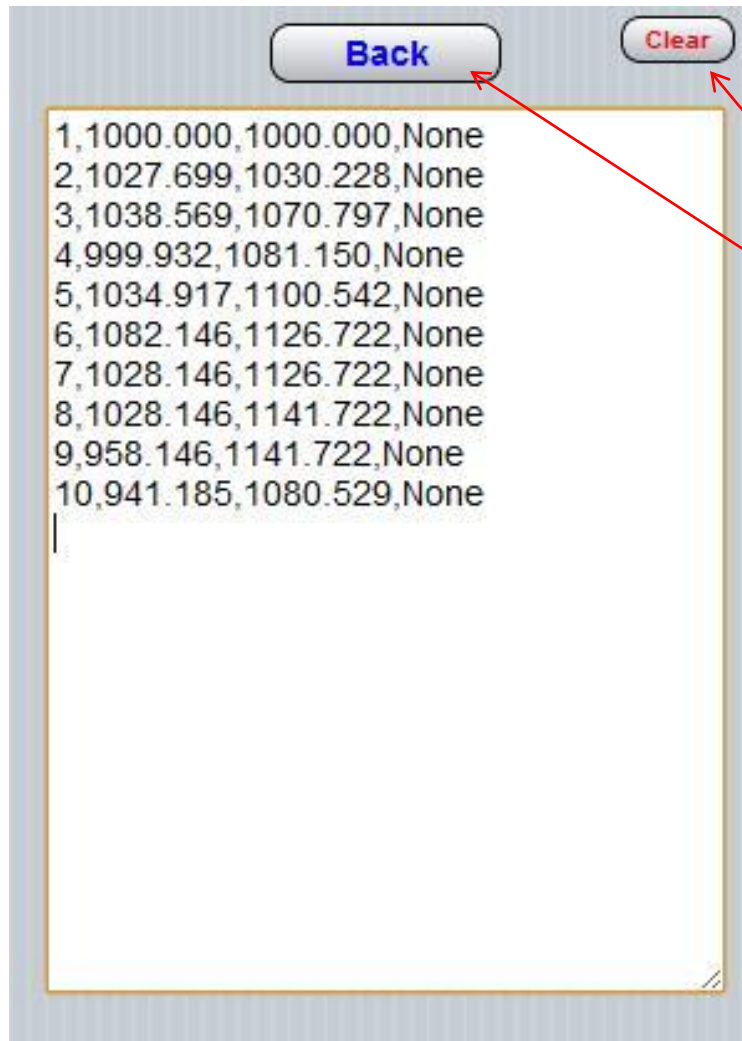
Leave blank to list all points. List a range of points separated with a dot. For 1 point enter it twice with dot between.

Reset

List Data

Menu

*Since we want to list all of the points we will leave the entry box blank and tap here.*



***The 10 points are displayed. They can be cleared or you may go back to the previous screen by tapping the 'Back' button, which is what we will do.***

## List Points With Their Data

Leave blank to list all points. List a range of points separated with a dot. For 1 point enter it twice with dot between.

Reset

List Data

Menu

*This time we will list a range of points (4 through 8) by entering 4.8 in the entry box and again tap here.*



***And only those  
points are listed.  
Tap 'Back'.***

## List Points With Their Data

4.8

Leave blank to list all points. List a range of points separated with a dot. For 1 point enter it twice with dot between.

Reset

List Data

Menu

← Tap Menu

*Let's do a bearing-distance traverse. Tap here.*



Ang-Dist	Angles	Area	
BrgDstInv	Calculator	CoordInv	
CurveCalcs	CurveInv	Curve3pts	
DeleteData	Grades	InputData	
InversMulti	Intrsections	Layout	
Preferences	Email	Export	Import
Next Page			

*Designed for portrait orientation*

## Bearing-Distance traverse-Inverse

From

10

To

11

For inverse, enter the 2 points being inverted in the 'From' box separated with a dot.

Bearing

12307

Distance

124.56

Descriptor

Compute

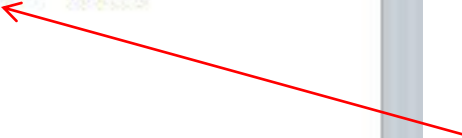
Reset

Menu

*Points 1-10 are already in the database so we will start with 10 and go to 11 with a bearing of N23°07'E (12307) for a distance of 124.56. Tap Compute.*

Back Clear

N23°07'00"E	124.560		
11	1055.744	1129.432	None



*The calculation is made and the coordinates of point 11 are shown. Tap the 'Back' button for next entry.*

## Bearing-Distance traverse-Inverse

From To

11 12

For inverse, enter the 2 points being inverted in the 'From' box separated with a dot.

Bearing Distance Descriptor

3421812 658.471 point12

*S42°18'12"W*

Compute

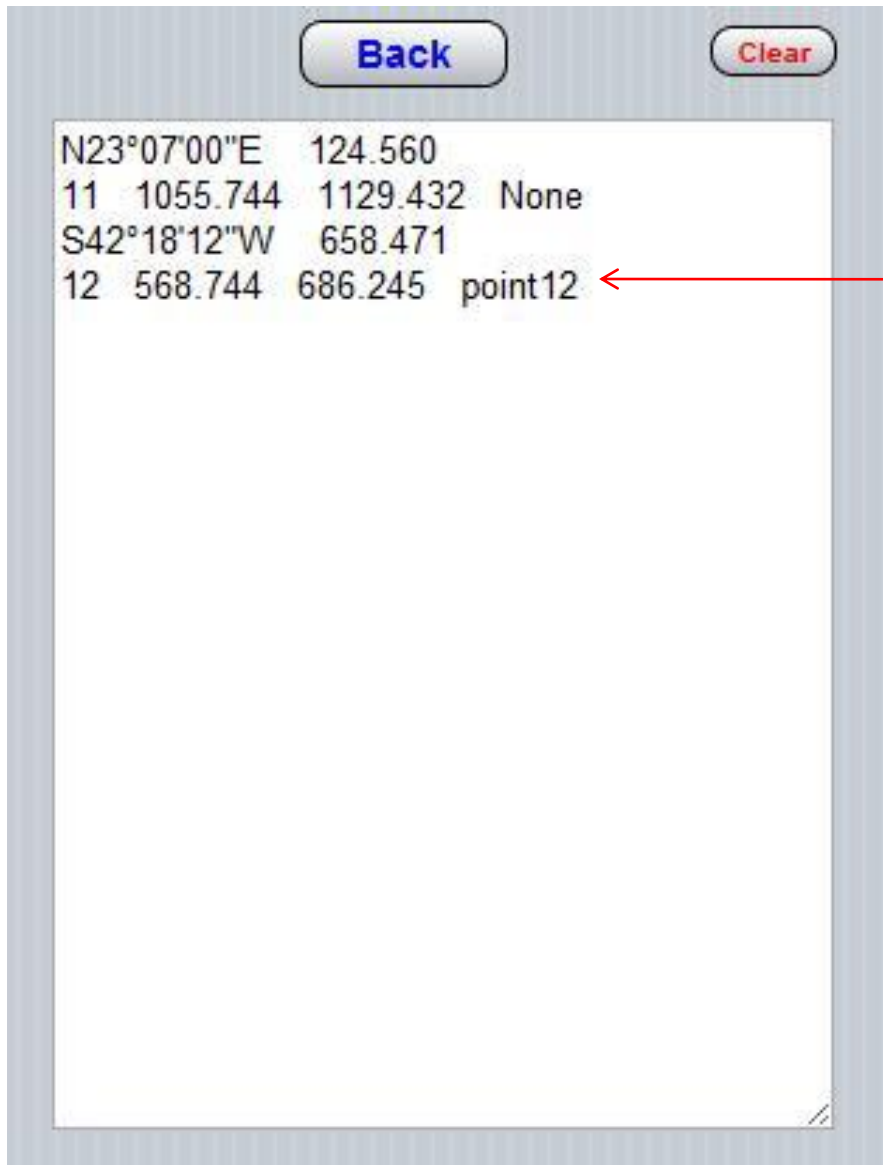
Reset

Menu

*The bearing and distance fields would have been blank but to save a slide, values have been inserted. Note the points from and to have been incremented automatically. However, any numbers could have been entered that were not already used.*

*A descriptor has now been included.*

*Tap Compute*



*New data is displayed.  
Tap 'Back'.*

## Bearing-Distance traverse-Inverse

From

4.5

To

13

For inverse, enter the 2 points being inverted in the 'From' box separated with a dot.

Bearing

Distance

Descriptor

Compute

Reset

Menu

*Now we will do an inverse between points 4 and 5 by entering those numbers separated with a dot, as shown. Tap compute.*

Back

Clear

N23°07'00"E	124.560		
11	1055.744	1129.432	None
S42°18'12"W	658.471		
12	568.744	686.245	point12
N28°59'57"E	40.000		

*The bearing is 3 seconds off because of the short distance*

*Tap 'Back', Menu, select CurveCalcs*

### Curve Calculations

Radius

Delta

Tangent

Length

Chord

DegCur

External

Compute

Menu

Reset

*We used values for the radius and tangent. Then tap Compute.*

Enter a valid combination of any 2 values and the remainder will be calculated.

## Curve Calculations

Radius	<input type="text" value="218.34"/>	<input type="button" value="Compute"/>
Delta	<input type="text" value="25°55'16"/>	<input type="button" value="Menu"/>
Tangent	<input type="text" value="50.25"/>	<input type="button" value="Reset"/>
Length	<input type="text" value="98.78"/>	
Chord	<input type="text" value="97.94"/>	
DegCur	<input type="text" value="26°14'29"/>	
External	<input type="text" value="5.708"/>	

*The remaining values are calculated and displayed*

*Reset will clear the display boxes for a new set of calculations*

**Tap Menu - Grades**

Enter a valid combination of any 2 values and the remainder will be calculated.

## Elevations along a slope

<b>Beg Sta</b>	<b>Elevation</b>	<b>Slope</b>
600	1253.14	3.7
<b>Next Sta</b>	<b>Interval</b>	<b>Last Sta</b>
650	25	800

Random Sta

Reset

Compute

Menu

Do not use "+" in station. e.g. 3+00 = 300.  
Use percentage for slope. e.g. 5.4% = 5.4

*Values have been entered. Tap Compute to view results.*

<b>Back</b>		<b>Clear</b>
650.000	1254.990	
675.000	1255.915	
700.000	1256.840	
725.000	1257.765	
750.000	1258.690	
775.000	1259.615	
800.000	1260.540	

**Results**

**Tap 'Back' – Menu -  
CoordInv**

## Inverse by Coordinates

1st Coord Set

1000,1000

2nd Coord Set

1027.699,1030.228

Separate N and E coords with a comma

Reset

Compute

Menu

N47°29'59"E 41.000

Inverse Results

*Inverse without point numbers by entering the actual coordinates.*

*Results after tapping Compute.*

*Tap Menu - Area*

## Area of Closed Figure

1.2.3.4.5.6.7.8.9.10.1.0

Points separated with dots. Close with first point, then 0 as final point. e.g. (1.2.3.4.1.0)

Curve 1

Curve 2

Curve 3

3.4.5.r

5.6.7.l

9579.260 Sq.Ft  
0.220 Acres

Compute

Menu

Reset

1

1= SqFt-Acres

2= SqMtr-  
Hectares

When curves are part of boundary, proceed in a **CLOCKWISE** direction. See manual for other information.

*Enter points separated with a dot. A reverse curve is present so went in Clockwise direction. Point 3 is PC, 4 is Rad Pt, and 5 is PT. r means curve is "right". L = left*

*For metric*

*Tap Menu – Next page-  
Plot*

**Plot Points**

Enter points in order separated with dots

1.2.3.4.5.6.7.8.9.10.1.0

Range of Points (Optional)

Upper Left Coord Lower Right Coord

950,1100 1200,900

Reset UL Reset LR

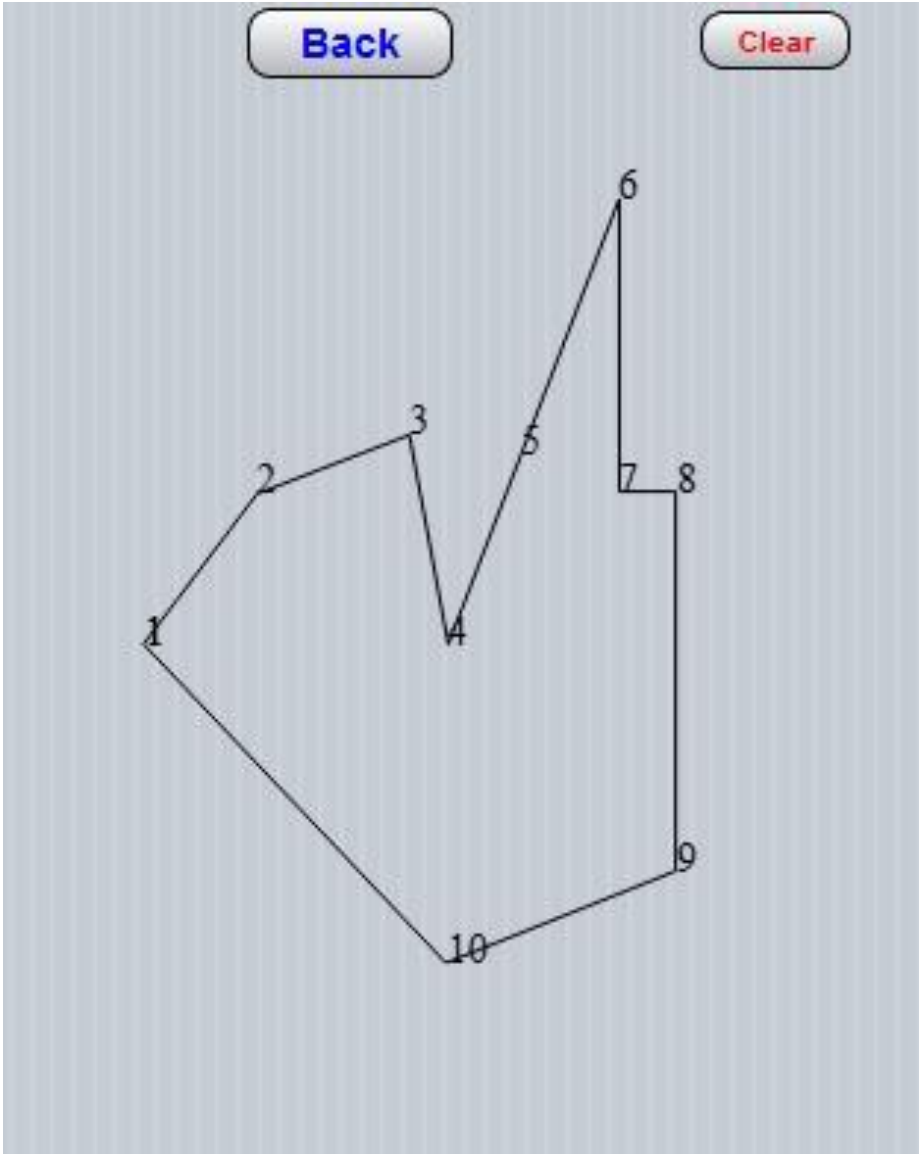
Plot Menu

Values have been placed in this version only for demonstration purposes. You may change them as necessary. They are based upn the sample database.

*Figure to be plotted defined by consecutive points. May be manipulated.*

*Defines upper left and lower right limits of the plotting area.*

*Tap Plot to see drawing*



***Tap 'Back'- Menu-  
InputData***

## Input new points with their data

Point

20

North

3654.125

East

1982.314

Descriptor

point20|

Save

Menu

Reset

If descriptor is left blank it will default to "None"

*Enter the data and tap Save. You will be notified if the point has already been used.*

*Tap Menu - InversMulti*

## Inverse between consecutive points

Range of points with dot between

3.9

Reset

Compute

Menu

```
3 S15°0'1"E 40.000 4
4 N28°59'57"E 40.000 5
5 N29°0'1"E 54.000 6
6 S0°0'0"E 54.000 7
7 N90°0'0"E 15.000 8
8 S0°0'0"E 70.000 9
```

Clear

*This computes the inverses between the range of points entered.*

- *This concludes the presentation. You may use the interactive evaluation to experiment with the others. Some, like MapCheck, were not used because of the many slides required to properly demonstrate its operation. The others were similar to what was demonstrated. Hopefully you now have a feel for how the application works and whether or not it can be of value. For questions please email me at [jschuchert@comcast.net](mailto:jschuchert@comcast.net) or call 801-254-7181. I will be happy to help. Thank you for your interest.....Jim Schuchert*