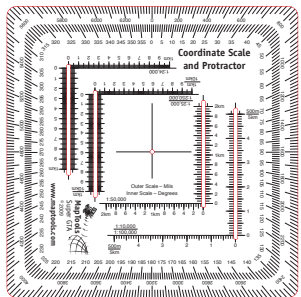
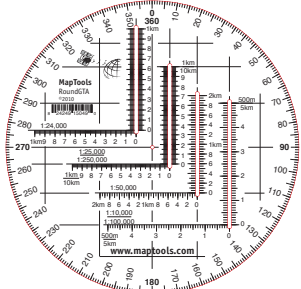


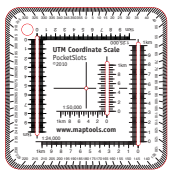
Military Style Coordinate Scale and Protractor (GTA 5-2-12)



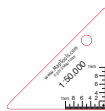
Improved Military Style Coordinate Scale and Protractor (SuperGTA)



Round Military Style Coordinate Scale and Protractor (RoundGTA)



PocketSlots



Mini50

MapTools has you covered when it comes to plotting and measuring map coordinates. Our series of military style coordinate scales and protractors runs from our basic tool through our improved tools, to our minimalist single scale tools. We have tools for the common military and civilian map scales as well as some very unusual scales for specific map series.

Our basic GTA tool improves on the standard issue tool with the following features:

- Thicker plastic, flexible but sturdy
- Rounded corners to prevent poking holes in you or your pockets
- Accurately cut triangles so you get accurate plotting results

Our improved tool adds the following features:

- It a bit smaller, the size of a DVD disk, so it stores in more places.
- It supports the 1:24,000 civilian map scale.
- We drill a hole in the center to make it easy to extend a plotted bearing, with a string.

Our round tool has all of the features of our improved tool minus the mils protractor. With the extra space we've made all of the printing larger for older eyes. It also lets you use a more familiar round protractor instead of a square one.

Our special forces customers like our PocketSlots tool. The features you need in a small light weight tool. For the absolute minimalist, we offer individual scale mini-corners, our smallest and lightest plotting tool.

We've designed our online store to make tax free purchasing with a government credit card hassle free, for a single tool or tools for the whole unit. If your purchasing needs are more involved, please feel free to contact us directly. Quantity discounts are available for everyone.

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Tools for working with UTM, MGRS and USNG coordinates

These tools are designed to be used with maps that are gridded for either Universal Transverse Mercator (UTM), Military Grid Reference System (MGRS), or United States National Grid (USNG) coordinates. They will also work with other grid based coordinate systems that use grids measured in metric units.

A UTM coordinate consists of three parts; a Grid Zone Designator, an Easting, and a Northing. The Grid Zone Designator is a number from 1-60 followed by a letter determined by the latitude within the numbered zone. The Easting and Northing are distances measured within the zone in meters.

10S, 564905m E, 4137933m N

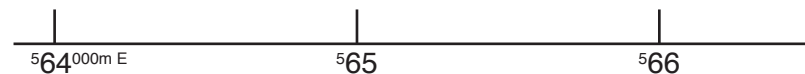
Grid Zone Easting Northing

MGRS and USNG coordinates are based on the UTM coordinate system. The first two digits of the easting and northing (the 1,000,000m and 100,000m digits) are converted to a letter pair, called the 100,000 meter square identification. And the Easting and Northing values are truncated to the desired precision. (Typically 100m or 10m precision.) It is common practice to omit the Grid Zone Designator and the letter pair when all of the coordinates you are working with fall within the same 100,000 meter square. The result is a localized coordinate consisting of a pair of 3 or 4 digit numbers.

The same UTM coordinate in MGRS/USNG format:

10 meter precision	10SEG64903793	64903793
100 meter precision	10SEG649379	649379
	full coordinate	short coordinate

The key concept in learning to use UTM/MGRS/USNG coordinates is to understand which digits identify a grid on your map, and which digits you need to measure within the grid square. Many of the maps gridded for these coordinate systems help the user by using a specific typographic style to represent the coordinates.

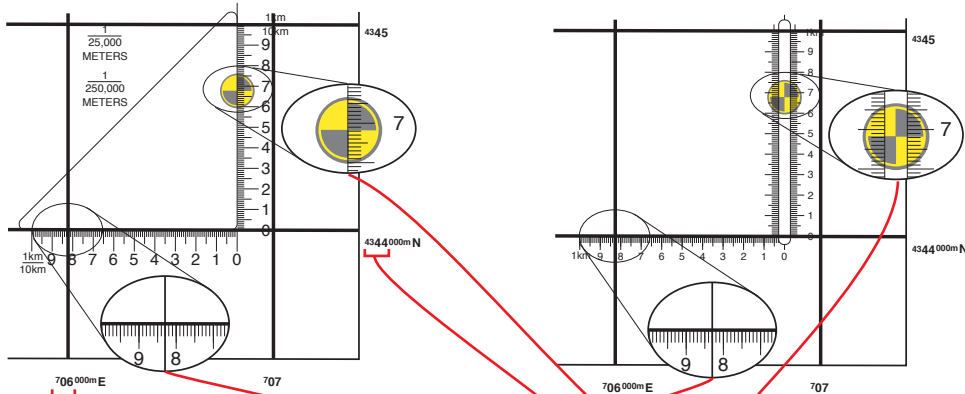



If you are using MGRS/USNG the first digits shown in small type are dropped and replaced by the letter pair. The large digits identify the grid square. The remaining digits in small type are measured within the grid square to the desired precision.

For more detailed information on using UTM/MGRS/USNG coordinates along with a description of the differences between MGRS and USNG refer to our booklet "Using UTM Coordinates with your GPS" at maptools.com/product/UTMGuide3 and to our tutorials at maptools.com/tutorials

Instructions for Determining Coordinates

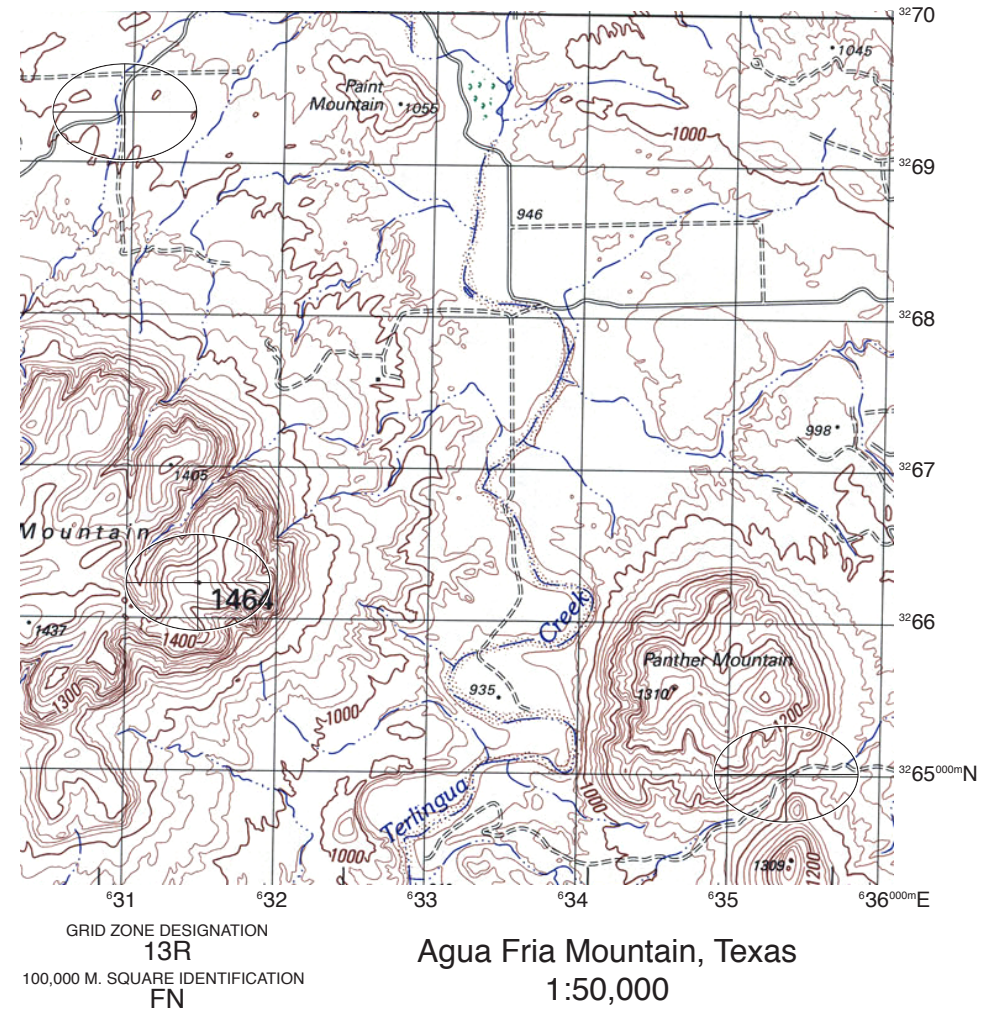
1. Select the tool that matches the scale of your map. Some tools are used for multiple scales that differ by a factor of 10. for example the 1:25,000 tool fits a 1 km grid square, but it can also be used on a 1:250,000 scale map with a 10km grid. **Double check that the tool fits the map grid. The ends of the scale should fit the grid lines.** Using the wrong scale is a common source of error!
2. Place the bottom edge of the tool on the grid line to the south of the point of interest.
3. Slide the tool left to right so the slot is positioned over the point of interest.
4. Read the easting coordinate where the horizontal scale crosses the grid line to the west of the point of interest.
5. Read the northing coordinate where the vertical scale crosses over the point of interest.
6. When using MGRS, drop the small type digits, report the 10km and 1km digits from the grid line, add 1 or 2 additional digits measured within the grid using the tool. Careful, reporting the wrong 3 or 4 digits, by shifting one digit right or left is a common source of error. With the MGRS notation there is not enough information to detect these simple errors. When you give the full UTM coordinates, it's easier to detect an error.



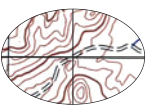
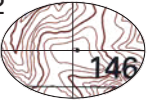
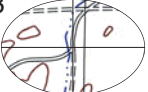
The  is located at: **706830m E 4344680m N in UTM format**
or 06834468 in MGRS/USNG 10m short format
or 068446 in MGRS/USNG 100m short format

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- Answers:**
- #1 Panther Mountain x1310 #1 635390m E 3265010m N or 35396501
 - #2 Paint Mountain x1055 #2 631470m E 3266230m N or 31476623
 - #3 630940m E 3269330m N or 30946933
 - #4 Panther Mountain x1310 #4 635390m E 3265010m N or 35396501
 - #5 Paint Mountain x1055 #5 631470m E 3266230m N or 31476623
 - #6 Road Jct. at Terlingua Ck #6 630940m E 3269330m N or 30946933
 - #7 Peak x1437 #7 631437m E 3265570m N or 31437057



Determine coordinates for the following 3 locations:

- #1  Road through pass
- #2  Peak 1464
- #3  Road junction

What map feature is located at the following coordinates?:

- #4 634640mE 3265570mN
- #5 13RFN32766939
- #6 337680
- #7 630440mE 3265970mN