Report Date: 13 Dec 2024

071-COM-1002
Determine the Grid Coordinates of a Point on a Military Map
Status: Approved

Security Classification: U - Unclassified

Distribution Restriction: Approved for public release; distribution is unlimited.

Destruction Notice: None

Foreign Disclosure: FD1 - This training product has been reviewed by the training developers in coordination with the G2, Fort Moore, GA 31905 foreign disclosure officer. This training product can be used to instruct international military students from all approved countries without restrictions.

Conditions: You are a member of a squad or team in a field environment and have been directed to identify the grid coordinates of a point on a map . You have a 1:50,000-scale military map, a coordinate scale and protractor, a pencil, and paper. You have been shown the point on the map. Some iterations of this task should be performed in MOPP 4.

Standards: Determine the six-digit grid coordinates of the point identified on the map by: finding the coordinates of the grid square where the point is located and the 2-digit grid coordinates of the point, with or without a coordinate scale and protractor. Include the 100,000- meter square identifier with the grid coordinate.

Special Conditions: None

Safety Risk: Low

MOPP 4: Sometimes

Task Statements

Cue: None

DANGER

None

WARNING

None

CAUTION

None

Remarks: None

Notes: None

Performance Steps

1. Determine the coordinates of the grid square (figure 1).

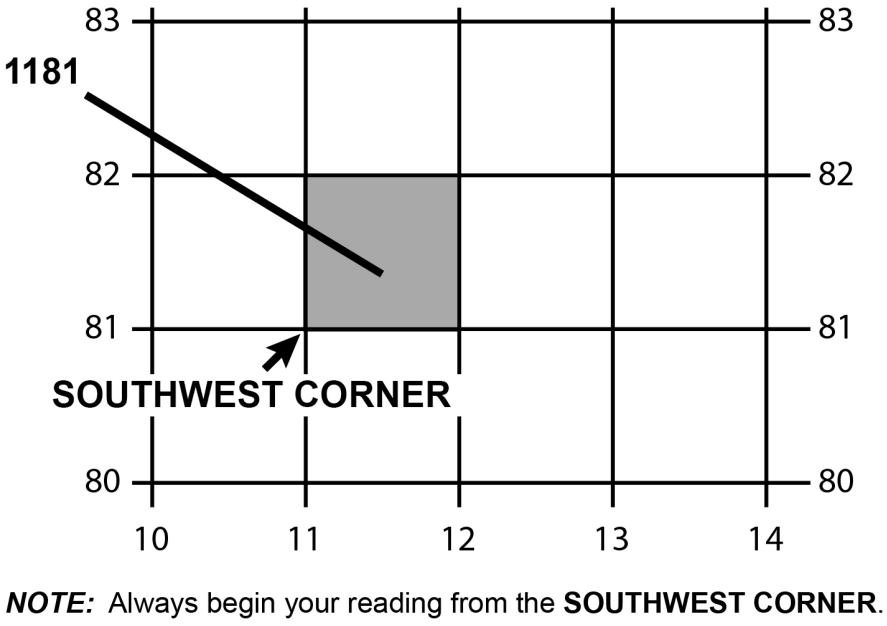

Figure 1.
Identifying the grid square.

a. Select the grid square that contains the identified point on the map (figure 1).

b. Read right to the north-south grid line that precedes the desired point (figure 1).

c. Record the number associated with that line.

d. Read up to the east-west grid line that precedes the desired point (figure 1).

e. Record the number associated with that line.

Note: The number of digits represents the degree of precision to which a point has been located and measured on a map. The more digits the more precise the measurement. In the above example, the four digits, 1181 identify the 1,000-meter grid square to be used.

2. Determine point grid coordinates.

a. Determine point grid coordinates without a coordinate scale and protractor (figure 2).

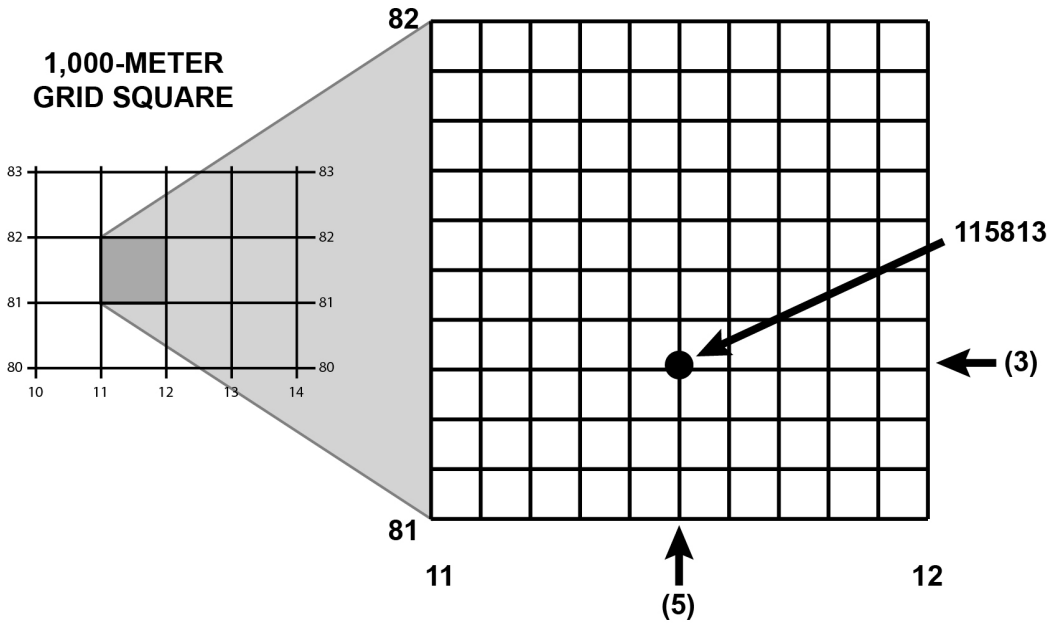

Figure 2.
Grid square 1181 divided.

(1) Allocate the grid square into a 10-by-10 grid.

(2) Read right (from the lower left corner) to the imaginary gird line nearest the identified point.

Note: In the example, the north-south imaginary line nearest the point is halfway or 5 lines out of a total of 10 lines. Therefore, the first half of the grid coordinate is 115.

(3) Read up to the imaginary gird line nearest the identified point.

Note: In the example, the east-west imaginary line nearest the point is one third of the way up or 3 lines out of 10 lines. Therefore, the second half of the grid coordinate is 813.

b. Determine point grid coordinates with coordinate scale and protractor (figure 3).

Note: The primary tool for plotting grid coordinates is the grid coordinate scale. This scale divides the grid square more accurately than can be done by estimation and the results are more consistent. When used correctly, it presents less chance for making errors. GTA 05-02-012 contains four types of coordinate scales.

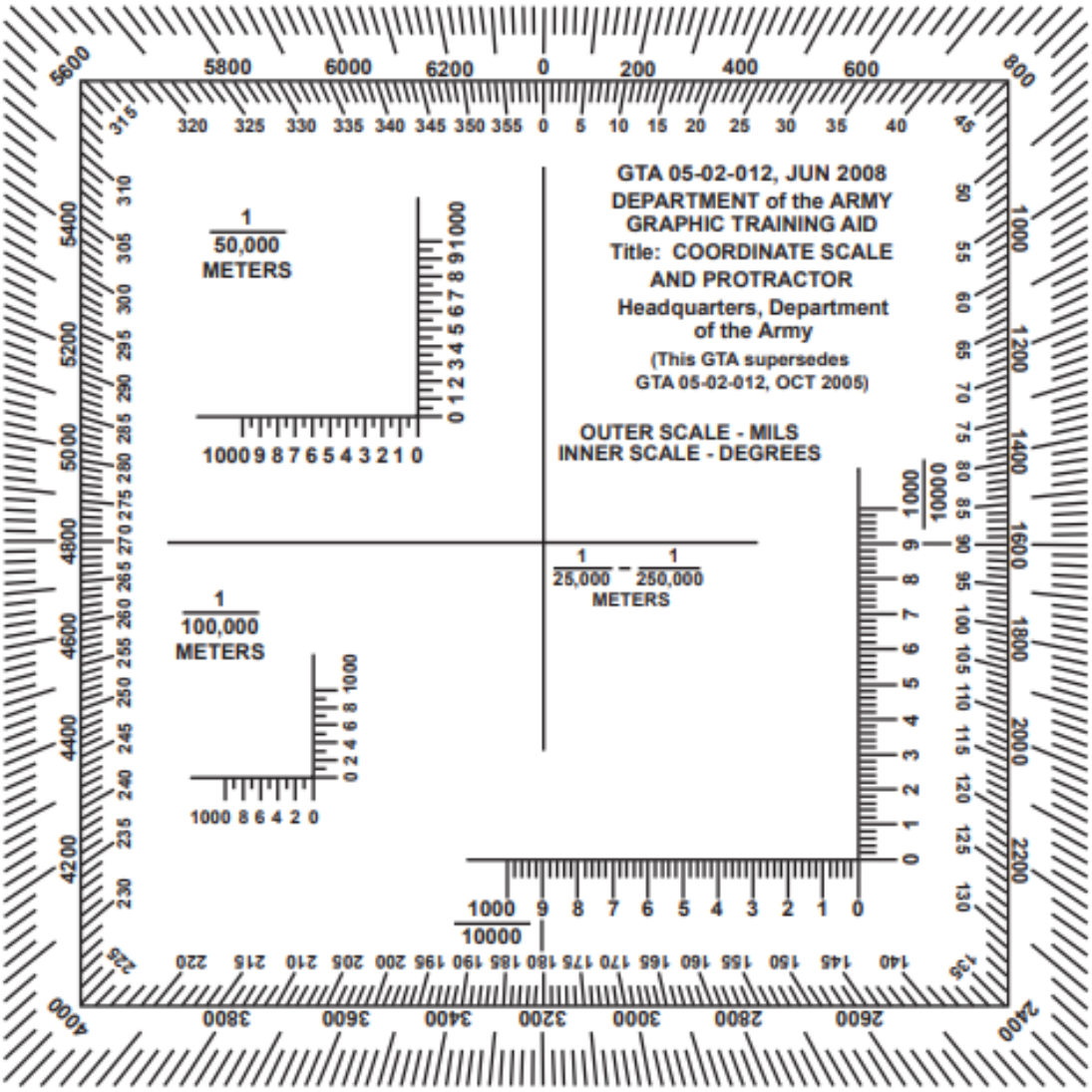

Figure 3.
Coordinate scale and protractor.

(1) Identify the appropriate scale on the protractor that corresponds with the map.

Note: The scale of the map is found in the upper left margin after the series name and in the center of the lower margin.

(2) Locate the grid square where the point is located (Example: point A in figure 4).

(3) Determine the coordinates of the grid square.

Note: The number of the vertical grid line on the left (west) side of the grid square gives the first and second digits of the coordinate. The number of the horizontal grid line on the bottom (south) side of the grid square gives the fourth and fifth digits of the coordinate.

(4) Determine the third and sixth digits of the coordinate.

(a) Place the coordinate scale and protractor on the bottom horizontal grid line of the grid square containing point A.

(b) Check that the zeros of the coordinate scale are in the lower left-hand (southwest) corner of the grid square where point A is located (figure 4).

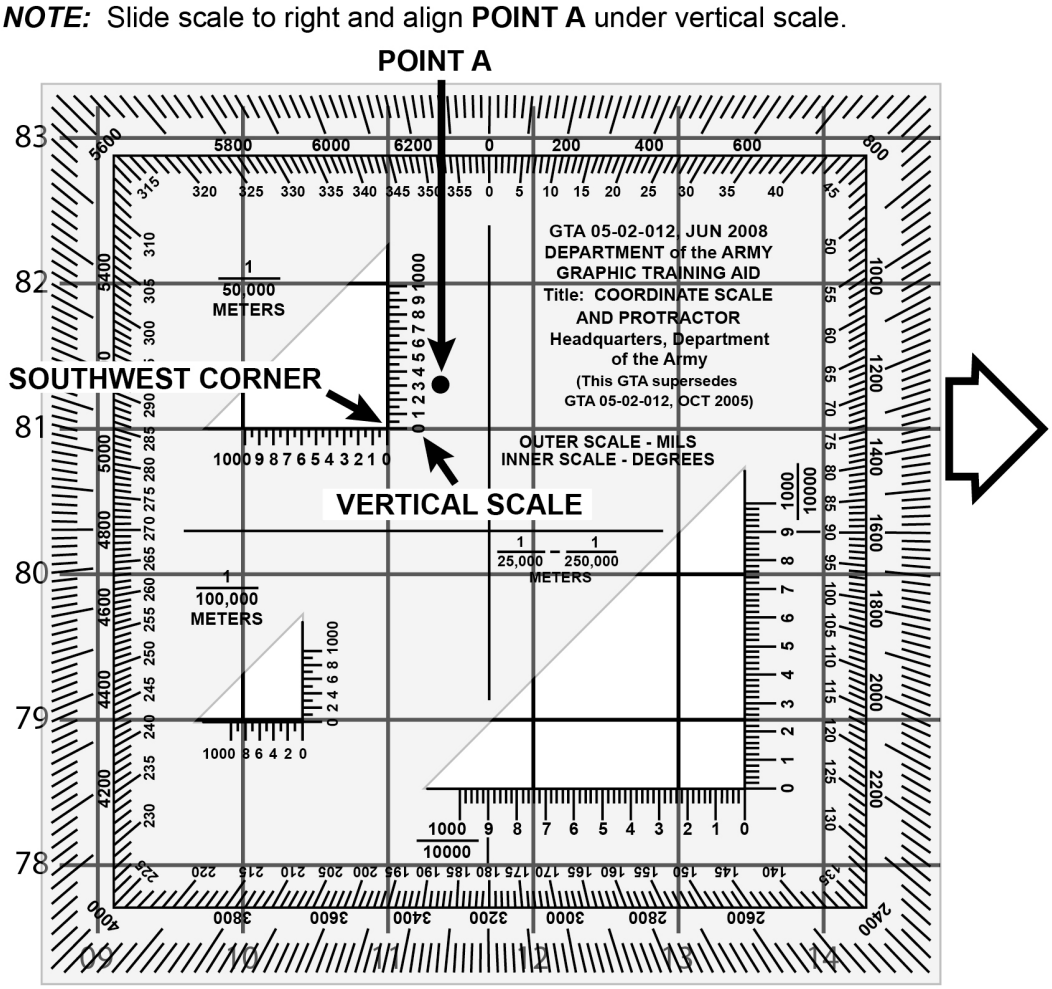

Figure 4.

Placement of the coordinate scale.

(c) Slide the scale to the right, keeping the bottom of the scale on the bottom grid line until point A is under the vertical (right-hand) scale (figure 5).

Note: To determine the six-digit coordinate, look at the 100-meter mark on the bottom scale, which is nearest the vertical grid line. This mark is the third digit of the number 115. The 100-meter mark on the vertical scale nearest to point A gives you the sixth digit of the number 813. The complete grid coordinate is 115813. Always read right, then up.

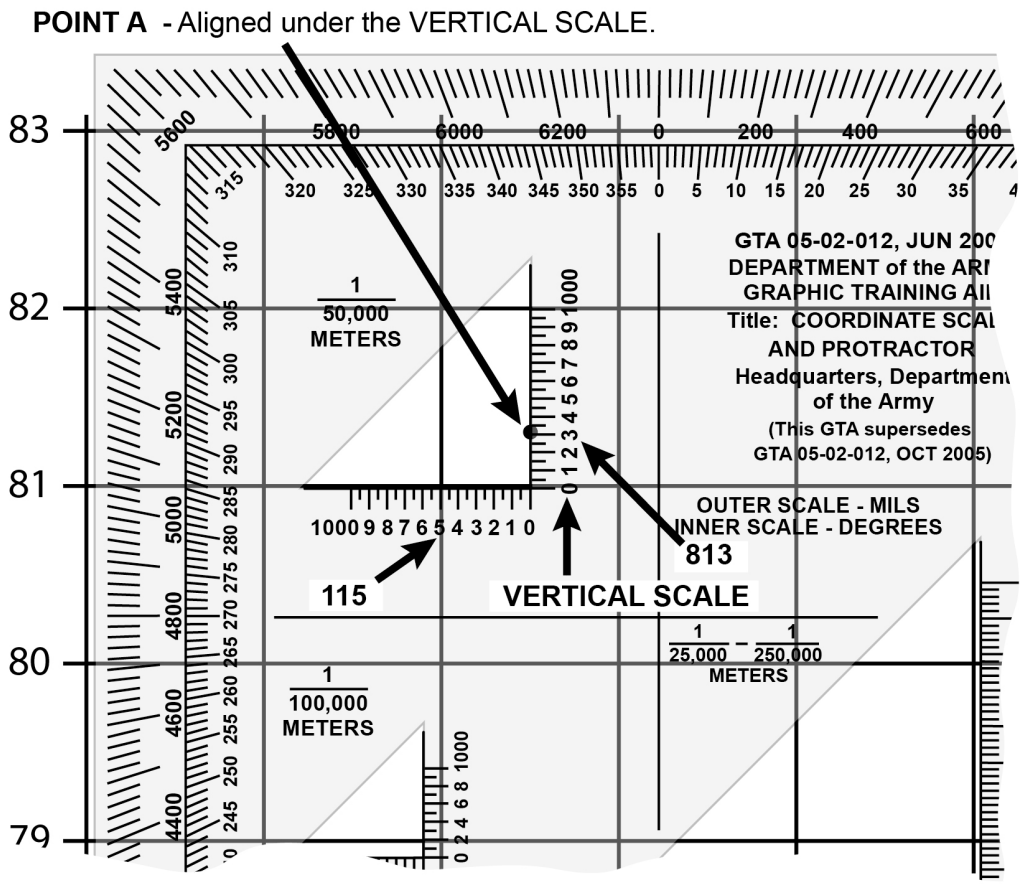

Figure 5.
Aligning the coordinate scale.

3. Add the grid zone designator and the 100,000-meter square identifier to determine grid coordinate.

a. Identify the grid zone designator by looking at the grid reference box in the margin of the map (figure 6).

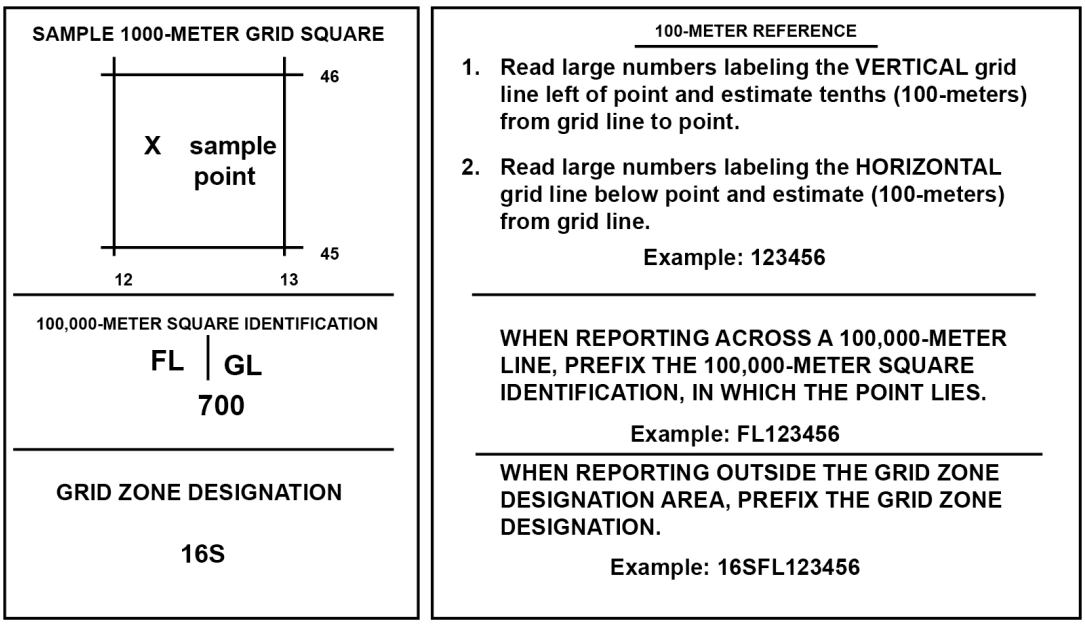

Figure 6.
Grid reference box.

b. Identify the 100,000-meter square identifier by looking at the grid reference box in the margin of the map (figure 6).

c. Place the grid zone designator and the 100,000-meter square identifier in front of the grid coordinate.
Note: In the example given the final grid coordinate becomes 16SGL115813.

(Asterisks indicates a leader performance step.)

Evaluation Guidance: Score the Soldier GO if all performance measures are passed. Score the Soldier NO-GO if any performance measure is failed. If the Soldier scores a NO-GO, show the Soldier what was done wrong and how to do it correctly.

Evaluation Preparation: SETUP: Provide the Soldier with the equipment and or materials described in the conditions statement.

BRIEF SOLDIER: Tell the Soldier what is expected by reviewing the task standards. Stress to the Soldier the importance of observing all cautions, warnings, and dangers to avoid injury to personnel and, if applicable, damage to equipment.

PERFORMANCE MEASURES	GO	NO-GO	N/A
1. Determined the coordinates of the grid square.			
2. Determined point grid coordinates.			
3. Added the grid zone designator and the 100,000-meter square identifier to determine grid coordinate.			

Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary	Source Information
	TC 3-25.26	Map Reading and Land Navigation	Yes	Yes	

TADSS : None

Equipment Items (LIN): None

Materiel Items (NSN) :

Step ID	NSN	LIN	Title	Qty
	7643-01-404-4393		Topo, MC&G Products	1

Environment: Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to the current Environmental Considerations manual and the current GTA Environmental-related Risk Assessment card.

Safety: In a training environment, leaders must perform a risk assessment in accordance with current Risk Management Doctrine. Leaders will complete the current Deliberate Risk Assessment Worksheet in accordance with the TRADOC Safety Officer during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW current CBRN doctrine.

Prerequisite Individual Tasks : None

Supporting Individual Tasks : None

Supported Individual Tasks : None

Supported Collective Tasks : None

Knowledges :

Knowledge ID	Knowledge Name
071-NAV-0027	Military Grid Reference System
301-K-193	The types of maps.
071-NAV-0031	Topographic Symbols
805C-K-0154	How to read a map
029	Map Terms and Symbols
301-K-190	The scales maps are available in.

Skills :

Skill ID	Skill Name
S0805	Ability to Determine Grid Coordinates
071-900-0003	Read a Protractor
301-S-27	Plot a location on a map.
301-S-116	Determine scale of map.
071-NAV-0003	Ability to Read a Map

ICTL Data : None