

071-329-1002

DETERMINE THE GRID COORDINATES OF A POINT ON A MILITARY MAP

CONDITIONS: Given a standard 1:50,000-scale military map in a field location, a 1:50,000 grid coordinate scale, a pencil, paper, and a point on the map.

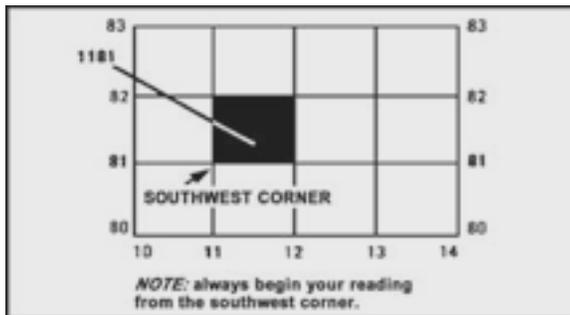
STANDARDS: Determine the six-digit grid coordinates for the point on the map with a 100-meter tolerance. Record the grid coordinates with the correct two-letter 100,000-meter-square identifier.

PERFORMANCE STEPS

NOTES:

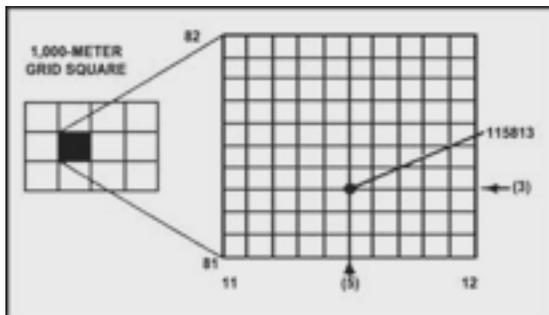
1. A military map can help you spot your location accurately. The map has vertical lines (top to bottom) and horizontal lines (left to right). These lines form small squares 1,000 meters on each side called grid squares.
2. The lines that form grid squares are numbered along the outside edge of the map picture. No two grid squares will have the same number.
3. The precision of a point location is shown by the number of digits in the coordinates; the more digits, the more precise the location. For example, "1996" is a 1,000-meter grid square, that is, it identifies a location to the nearest 1,000 meters. "192961" is a 100-meter grid square, that is, it identifies the location to the nearest 100 meters.

1. Look at Figure 1. Your address is grid square 1181. To determine your address, start from the left and read right until you come to 11, the first half of your address. Then read up to 81, the other half. Your address is somewhere in grid square 1181. Determine your address to the nearest 100 meters. Grid square 1181 gives your general neighborhood, but there is a lot of ground inside that grid square. To make your address more accurate, just add another number to the first half and another number to the other half so your address has six numbers instead of four.



a. To get these extra numbers, suppose that each grid square has 10 lines inside it running north and south, and another 10 running east and west. This makes 100 smaller squares. You can estimate where these imaginary lines are (Figure 2).

Figure 1. Grid square 1181.



b. Suppose you are halfway between grid line 11 and grid line 12. Then the next number is 5 and the first half of your address is 115. Now suppose you are also 3/10 of the way between grid line 81 and grid line 82. Then the second half of your address is 813. Your address would be 115813 (Figure 071-329-1002_002). (If you are exactly on line 81, the second half would be 810.)

Figure 2. Grid square 1181 divided.

DETERMINE THE GRID COORDINATES OF A POINT ON A MILITARY MAP

2. Use a coordinate scale. The most accurate way to determine the coordinates of a point on a map is with a coordinate scale. You need not imagine lines, because you can find the exact coordinates using the coordinate scale, protractor (GTA 5-2-12, Figure

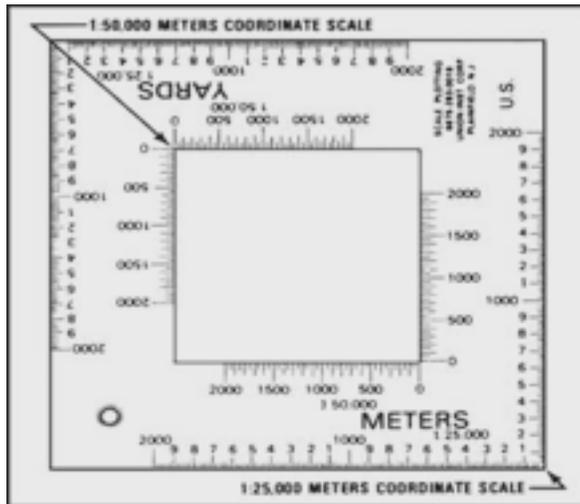


Figure 3. Coordinate scale and protractor.

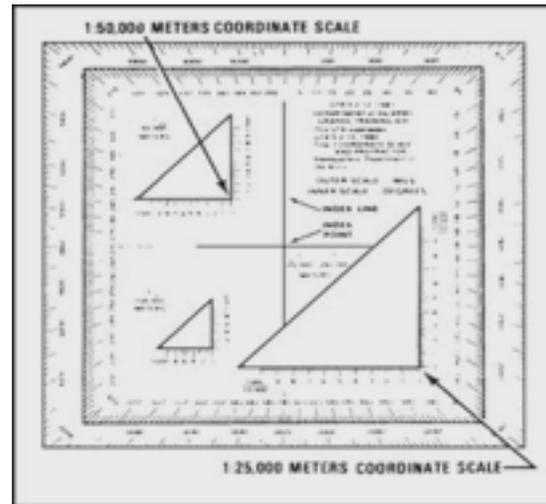


Figure 4. Plotting scale.

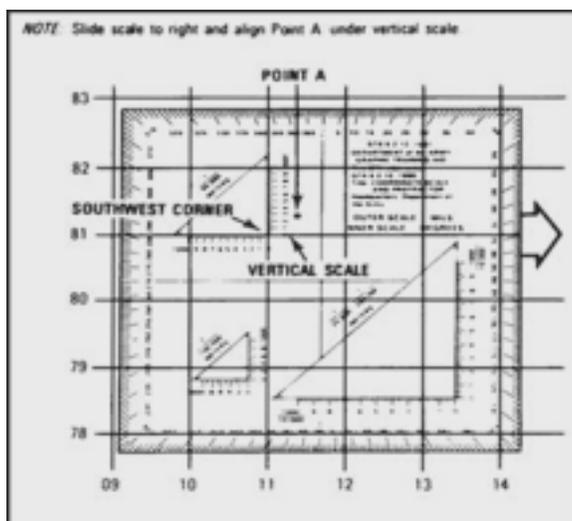


Figure 5. Placement of the coordinate scale.

- Locate the grid square where the point is located, for example, Point A (Figure 5; this point should already be plotted on the map.)
- 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.
- Place a coordinate scale on the bottom horizontal grid line of the grid square containing Point A to determine the third and sixth digits of the coordinate.
- Check to see 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 5).

f. 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 (Figures 6 and 7). 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. Putting these together, you have 115813.

DETERMINE THE GRID COORDINATES OF A POINT ON A MILITARY MAP

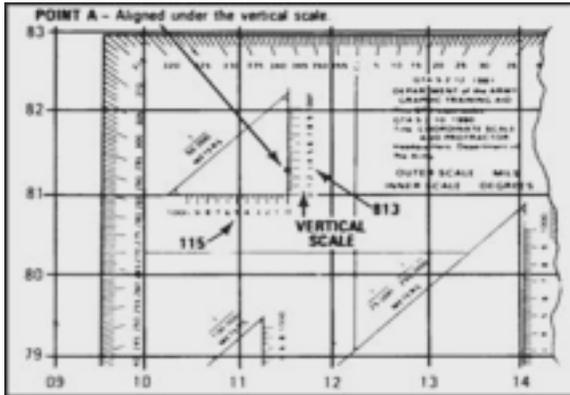


Figure 6. Aligning the coordinate scale.

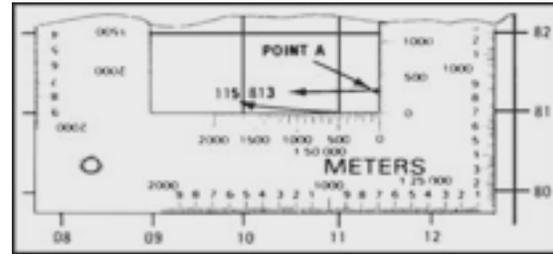


Figure 7. Aligning the plotting scale.

<p>SAMPLE 1,000-METER GRID SQUARE</p> <p>SAMPLE POINT</p>	<p>100-METER REFERENCE</p> <p>1. READ LARGE NUMBERS LABELING THE VERTICAL GRID LINE LEFT OF POINT AND ESTIMATE TENTHS (100 METERS) FROM GRID LINE TO POINT.</p> <p>2. READ LARGE NUMBERS LABELING THE HORIZONTAL GRID LINE BELOW POINT AND ESTIMATE TENTHS (100 METERS) FROM GRID LINE TO POINT.</p> <p>EXAMPLE: 123456</p>
<p>100,000-METER SQUARE IDENTIFICATION</p> <p>FL GL 00</p>	<p>WHEN REPORTING ACROSS A 100,000-METER LINE, PREFIX THE 100,000 METER SQUARE IDENTIFICATION IN WHICH THE POINT LIES.</p> <p>EXAMPLE: FL123456</p>
<p>GRID ZONE DESIGNATION</p> <p>16S</p>	<p>WHEN REPORTING OUTSIDE THE GRID ZONE DESIGNATION AREA, PREFIX THE GRID ZONE DESIGNATION.</p> <p>EXAMPLE: 16SFL123456</p>

Figure 8. Grid reference box.

EVALUATION PREPARATION: SETUP: Give the Soldier a standard 1:50,000-scale military map in a field location, a 1:50,000 grid coordinate scale, a pencil, paper, and a point on a map for which coordinates must be determined.

BRIEF SOLDIER: Tell the Soldier to write down the two-letter 100,000-meter-square identifier and the six-digit grid coordinates for one point, along with the two-letter 100,000-meter-square identifier.

REFERENCES

REQUIRED

FM 3-25.26
GTA 05-02-12

RELATED

LINKS

WWW.TRAININGNCO.COM