

" MAP MEASUREMENT"

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Annotation:

This article provides information on map measurement.

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According to the relief and local objects depicted on the map, it is possible to judge the suitability of this area for organizing and conducting combat, for the use of military equipment in combat, for conditions of observation, firing, orientation, camouflage, as well as for patency. The presence on the map of a large number of settlements and separate woodlands, cliffs and gullies, lakes, rivers and streams indicates the roughness of the terrain and a limited overview, which will complicate the movement of military and transport equipment off the roads, create difficulties in organizing surveillance. At the same time, the rugged nature of the terrain creates good conditions for hiding and protecting units from the effects of enemy weapons of mass destruction, and forests can be used to disguise the personnel of the unit, military equipment, etc.

By the nature of the layout, size and font of the signature of settlements, we can say that some settlements belong to cities, others to urban-type settlements, and others to rural-type settlements. The orange color of the blocks indicates the predominance of fire-resistant buildings. The closely spaced black rectangles inside the blocks indicate the dense nature of the building, and the yellow fill indicates the non-fire resistance of the buildings.

A weather station, a power plant, a radio mast, a fuel depot, a factory with a pipe, a railway station, a flour mill and other facilities can be located in a locality. Some of these local items can serve as good reference points.

A relatively developed network of roads of various classes can be depicted on the map. If there is a signature on the conditional highway sign, for example, 10 (14) B. This means that the covered part of the road is 10 m wide, and from ditch to ditch - 14 m, the pavement is cobblestone. A single-track (double-track) railway can pass through the area. By studying the route along the railway, you can find on the map individual sections of roads that run along an embankment or in a recess with a specified depth.

With a more detailed study of roads, it is possible to establish: the presence and characteristics of bridges, embankments, recesses and other structures; the presence of impassable sections, steep descents and ascents; the possibility of exit from roads and traffic near them.

When studying dirt roads, special attention is paid to identifying the carrying capacity of bridges and ferry crossings, since on such roads they are often not designed to pass heavy wheeled and tracked vehicles.

Water surfaces are depicted on maps in blue or blue, so they stand out clearly among the conventional signs of other local objects.

By the nature of the font of the signature of the river, one can judge its navigability. The arrow and the number on the river indicate which way it flows and at what speed. The signature, for example: means that the width of the river in this place is 250 m, the depth is 4.8 m, and the bottom soil is sandy. If there is a bridge across the river, then its characteristics are given next to the image of the bridge.

If the river is depicted on the map with one line, then this means that the width of the river does not exceed 10 m. If the river is depicted in two lines, and its width is not indicated on the map, its width can be determined by the designated characteristics of bridges.

If the river is fordable, then the conditional ford sign indicates the depth of the ford and the bottom soil.

When studying the soil and vegetation cover, you can find on the map different areas of the forest in size. Explanatory conventional signs on the green fill of the forest area may indicate a mixed composition of tree species, deciduous or coniferous forest. The caption, for example: , says that the average height of trees is 25 m, their thickness is 30 cm, the average distance between them is 5 m, which allows us to conclude that it is impossible for cars and tanks to move through the forest off the roads.

The study of the relief on the map begins with determining the general nature of the irregularities of the area on which the combat mission is to be performed. For example, if the map shows a hilly terrain with relative heights of 100-120 m, and the distance between the horizontal lines (laying) is from 10 to 1 mm, this indicates a relatively small steepness of the slopes (from 1 to 10 °).

A detailed study of the terrain on the map is associated with solving problems of determining the heights and mutual excess of points, the type, direction of slope steepness, characteristics (depth, width and length) of hollows, ravines, gullies and other relief details.

Measuring distances on the map

Measuring straight and curvy lines on the map

To determine on the map the distance between points of the terrain (objects, objects), using a numerical scale, it is necessary to measure on the map the distance between these points in centimeters and multiply the resulting number by the magnitude of the scale. A small distance between two points in a straight line is easier to determine using a linear scale. To do this, it is

enough to apply a compass meter, the solution of which is equal to the distance between the specified points on the map, to a linear scale and take a count in meters or kilometers.

Large distances between points in straight lines are usually measured using a long ruler or a measuring compass.

In the first case, a numerical scale is used to determine the distance on the map using a ruler. In the second case, the solution "step" of the measuring compass is set so that it corresponds to an integer number of kilometers, and an integer number of "steps" is postponed on the segment measured on the map. The distance that does not fit into the integer number of "steps" of the measuring compass is determined using a linear scale and added to the resulting number of kilometers.

In the same way, distances are measured along winding lines. In this case, the "step" of the measuring compass should be 0.5 or 1 cm, depending on the length and degree of tortuosity of the measured line.

To determine the length of the route on the map, a special device called a curvimeter is used, which is especially convenient for measuring winding and long lines.

The device has a wheel that is connected by a gear system with an arrow.

When measuring the distance with a curvimeter, you need to set its arrow to division 99. Holding the curvimeter in a vertical position, guide it along the measured line without taking it off the map along the route so that the scale readings increase. After reaching the end point, count the measured distance and multiply it by the denominator of the numerical scale.

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