



FEATURES OF THE METHOD, TYPICAL TASKS.

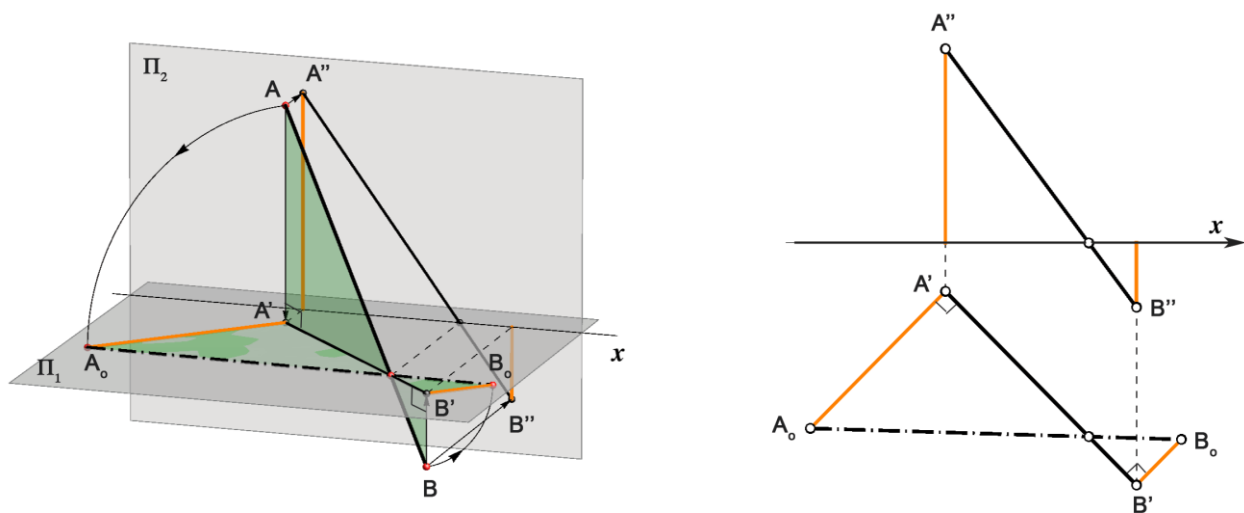
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Annotation: The object is orthogonally projected onto the zero level plane - H_0 . A point in space is determined by its horizontal projection and a mark with a number corresponding to the height of the point. Plan drawings have a linear scale and are reversible.

Key words: Plane, Slope scale, Projections, Task, Horizontals of the plan, tangents horizontals of the slope cone, straight, graduated straight line, graduated curve.

The projection length $b_0, c_{2,5}$ of the line segment BC is called the origin L . In the actual size of the straight line segment and the angle α of its inclination to the plane H is plotted, and the



arrows also show the graduation of the straight line projection. Graduation of the straight line $b_0, c_{2,5}$ is reduced to finding its points 1 and 2 with marks in integers. The position $b_0 - 1$ and $1 - 2$, corresponding to the unit of excess, is called the interval I of the straight line. The straight line interval $-I$ is the reciprocal of the straight line slope $-i - 1/I$ ($\text{tg } \alpha$).

The object is orthogonally projected onto the zero level plane - H_0 . A point in space (point A) is determined by its horizontal projection and a mark with a number corresponding to the height of the point (point a_2). Plan drawings have a linear scale and are reversible.

Planes and surfaces are considered to be dissected by level planes equidistant per unit height along horizontal lines 1...

A plane in space is determined by the scale of the slope, that is, a graduated projection of the slope line of the plane, and is depicted by two parallel straight lines. The angle α of the inclination of the slope line determines the inclination of the plane P and H_0 . The scale of the slope P_i is perpendicular to the projections $0, 1, \dots$ of the horizontal planes, spaced at an interval l from each other.

Projections of the horizontal surfaces, for example a right circular cone, represent a continuous frame of concentric circles; the horizontal lines of the topographic earth surface are irregular curves.

TYPICAL TASKS

The following tasks apply when completing the job:

Task 1. Drawing a plane through a horizontal line.

Plane P is specified by slope $i = 2/3$ with slope direction and horizontal 3 . The slope scale P_i will be perpendicular to horizontal 3 . Horizontal lines $2, 1, 0$ of the plane are drawn at an interval $l = 1/i = 3/2$ from each other, plotted on the scale of slopes P_i from the point marked 3 .

Task. 2. Drawing a plane through an inclined line.

The horizontals of the plane P passing through the inclined straight line AS are tangent to the equivalent horizontals of the slope cone* with the vertex S on the straight line (Fig. 8a). In Fig. 8b, plane P is specified by slope $l=2$ and straight line a_0S_2 . Let's construct horizontal lines 1 and 0 of the cone - concentric circles with center S_2 at the interval $l=1/i=1/2$ from each other. We draw the horizontal lines $1-1, a_0-0$ of the plane through points 1 and a_0 of the graded straight line a_0S_2 , as tangents to the horizontal lines 1 and 0 of the cone.

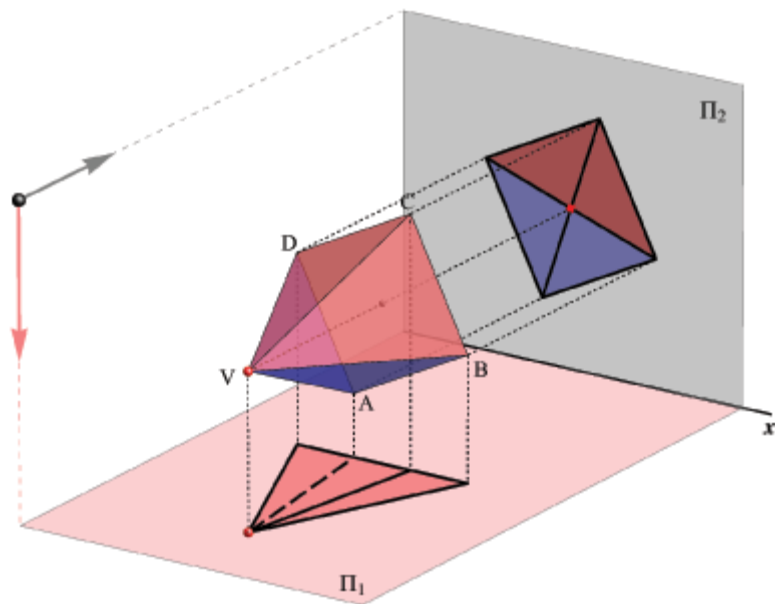
Task 3. Constructing horizontal lines of a surface of an equal slope passing through a spatial curve.

Horizontals of the surface Φ of an equal slope passing through the spatial curve AS'' , tangent to the equivalent horizontals of the family of slope cones with vertices $S', S'' \dots$ on the curve. The horizontal lines $S_1 - 1, a_0 - 0 \dots$ of the surface are drawn through the points $S_1, a_0 \dots$ of the graded curve a_0, S_2 , as tangents to the horizontal lines $1, 0 \dots$ of cones - circles with centers $S_1, S_2 \dots$ radii l, l and $2l \dots$.

Task 4. Intersection of two planes.

The straight line m_1-m_5 of the intersection of the planes specified by the slope scales P_i and Q_i is determined by the intersection points m_1 and m_3 of two pairs of equivalent horizontal planes. Planes of equal slope intersect along the bisector of the angle between their equivalent horizontals.

Task 5. Intersection of a surface with a plane.



The line m_1 - m_4 of intersection of the surface with the plane is determined by the set of points $m_1, m_2, m_3...$ of the intersection of their equivalent horizontal lines. A plane and a conical surface with equal slopes intersect along a parabola.

Task 6. Intersection of a line with a surface.

The point K of intersection of straight line a_4b_1 with the surface is determined by including a graded straight line a_4b_1 in horizontals 1, 2, 3... of an arbitrary plane intersecting the surface along the curve m_1 - m_5 (problem 5), which intersects straight line a_4b_1 at point P30. Visibility a_4b_1 will be found by its point with mark 3, 5, which exceeds the competing point 3 of horizontal 3. Similarly, solving the problem of the intersection of a curve with a surface, along the curve is included in the auxiliary surface (curve S30-27 is included in horizontals S29-29, S28-28 ... surfaces F).

Task 7. Intersection of two surfaces.

The line m_1 - m_4 of the intersection of surfaces is determined by the set of points $m_1, m_2, m_3...$ of the intersection of equivalent horizontal lines of the surfaces. The shape of the curve is specified using the intersection point 2, 5 of a pair of intermediate horizontal surfaces with marks 2, 5.

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