

## USE AN UNPOPULAR METHOD TO FIND THE TRUE SIZE OF A PLANE IN THE GENERAL CASE

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### ANNOTATION

Methods of alternating planes, moving in parallel parallel, and rotating around a vertical line. As always, the topic of “Determining the True Size of a Plane in a General Situation” is analyzed using the simplest visual graphs to explain to students.

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### INTRODUCTION

It is customary to use the same style when explaining a topic to students. The mentor should always increase the experience by learning to use new teaching methods in research.

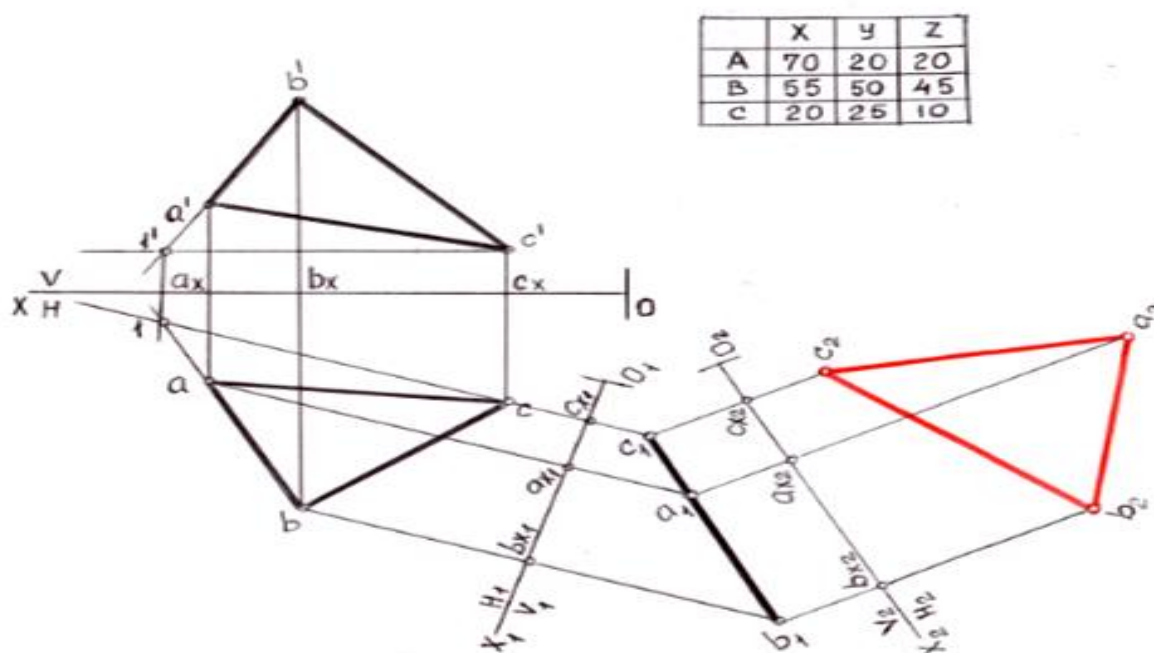
It is known that in the discipline of "Descriptive Geometry and Engineering Graphics" there are several methods on the topic "Determining the true size of the plane in the general case." For example: ABS Methods of replacing planes, moving in parallel parallel, and rotating around a vertical line. As always, the topic of “Determining the True Size of a Plane in a General Situation” is analyzed using the simplest graphical diagrams to explain to students. Selecting one of the ends of the plane  $a^1b^1c^1$ , ie  $a^1$ , draws a line parallel to the axis OX apse. This line intersects the  $b^1c^1$  side of the AVS plane to form a point. Call the resulting point  $1^1deb$  and lower it vertically to the horizontal projection. Now the remaining ends of the plane are drawn parallel to the line  $1, a$  from  $b, c$ . The abscissa axis  $X_1O_1$  with respect to these parallel lines is then taken in a position perpendicular to any position. Here the lines coming out of each end of the abs plane intersect with the axis of the abscissa  $X_1O_1$  to form the points  $ax_1bx_1$  and  $sx_1$ . The distances  $a_1a_x, b_1b_x,$  and  $s_1s_x$  in the frontal projection are placed along the points  $ax_1bx_1$  and  $sx_1$ , so that the plane ABC becomes a straight line, denoted by  $a_1b_1$  and  $s_1$ .

Taking the distances  $a ax_1, b bx_1$  and  $c cx_1$  in the horizontal projection and placing them along the points  $a_1b_1$  and  $c_1$ , the true magnitude of the AVS plane in the above general situation is

determined. We would have further developed students' interest in the subject if it had always been explained to the students in a slightly modified way without narrating the topic in the same style.

A less popular method can be used to describe the topic below. For example: In describing this topic, it is also possible to determine the true size of the ABC plane using an external connection rather than an internal connection. To do this, select the point  $c^1$  in the frontal projection and draw a line parallel to the axis of the OX apse. Then, if the side  $a^1, d^1$  of the plane is continued, this line intersects with the line coming out of point  $c^1$  and forms  $1^1$  points, so that there is an external connection in the plane. You can see the development of this method in the graphic below.

The difference from the method described above is that an external connection is used here. In short, this unpopular method can be used in other methods, such as flat parallel transfer and rotation. This method may be of interest to students. This is because uniformity in explaining a topic is not limited to a statement, but also gives good results if other methods are used.



### Literature

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