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# GEOMETRIK MASALALARNI BAJARISHNING ENG QULAY ALGORITMLARI

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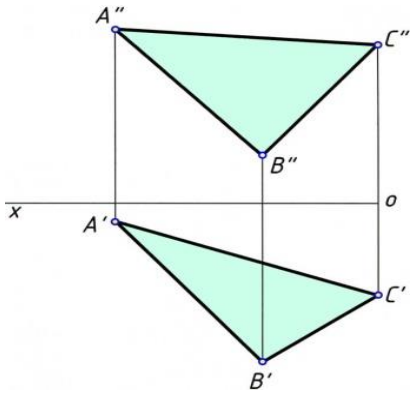
***Annotatsiya:*** *This article is about the efficieucy of using algorithm & the ways of soling them with positional tasks.*

***Kalit so‘zlar:*** *undergraduate, triangle-shaped, adjacent, drawn, respect, Frontal, Remember.*

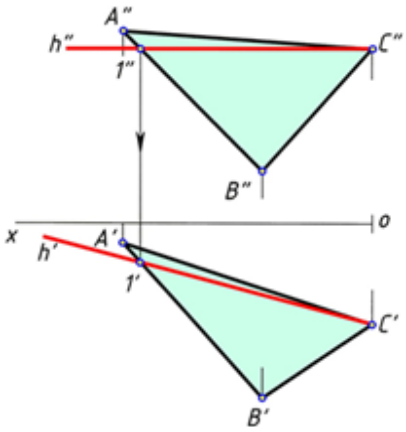
Drawing geometry is taught to enhance the imagination of students of higher educational institutions, [4]. It is very convenient to use algorithms, noting that the level of imagination of undergraduate students in the field of Engineering, Architecture and design is insufficient, [3].



draw 1

It is known that the projections H and V of an arbitrary triangle-shaped plane (Figure 1) Find the angular magnitudes of deviation with respect to the planes are solved by performing the following graphical operations, [1]:

A horizontal line h(H’h") is drawn through the C(C’,C") end of the triangular ABC (Figure 2).

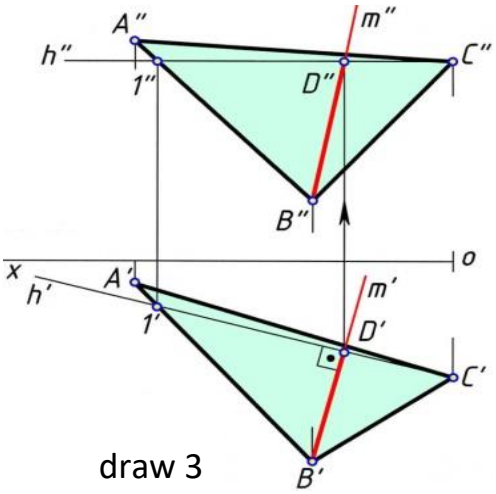


draw 2

In the frontal projection of the Epirus, the frontal projection of the horizontal h"(C" 1") is plotted through the C"end of Triangle a"B" c " parallel to the [ox) axis. Then the missing horizontal projection of Point 1 ‘ is determined. This 1’ point a’B’C’ lies on the A’B ‘ side of the Triangle. The C ‘and 1’ points are adjacent. This line is denoted by h ‘ and is called the horizontal projection of the horizontal,[5].

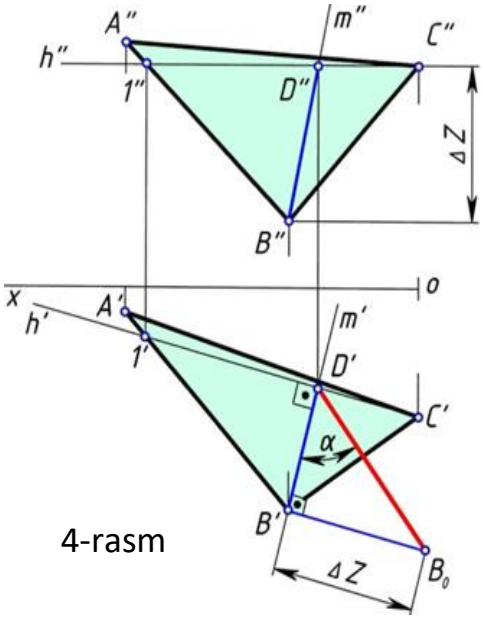
$$C" \subset h"(C"1") \parallel [ox) \text{ and } C' \in h'(C'1')$$

ABC is drawn through the B-end of the triangle with the line m(m’,m") perpendicular to the line h(h’,h") (Figure 3). This line m(m’,m") is called the largest slope line of triangle ABC. lines m(m’,m") and h(h’,h") intersect to form a D(D’,D") point. The result is a [BD] cross section.



draw 3

In the horizontal projection of the Epirus, a’B’C’ is drawn through the B’ end of the Triangle, drawing the M’line perpendicular to the H’(C’ 1’) line. the lines m’ and h’ intersect to form a D’ point. And the D "point lies on the line h"(C"1"). A line m is drawn through points B" and D".



4-rasm

$$B' \subset m' \perp h'(C'1'); \; m' \cap h' = D'$$

$D" \in h"(C"1")$ and

$$B" \cup D" = [B"D"] \in m"$$

The actual length of the [BD] cross section is determined using the right-angled triangle method. (Figure 4).

This results in a dbb0 right-angled triangle.

Its angle D is ∠α,which is the angle of inclination

to H.

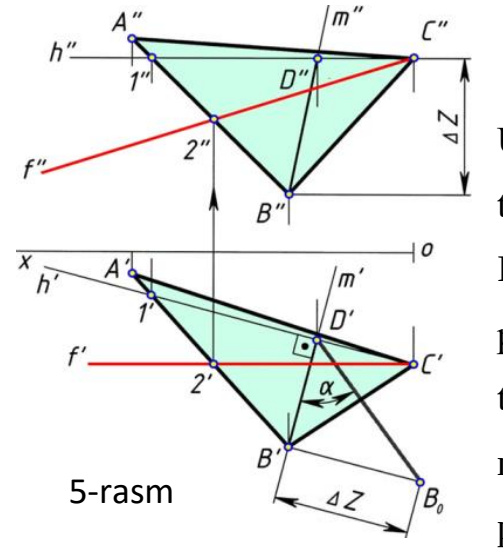
That is, ∠α = (ABC) ^ H.

In the horizontal projection of the Epirus, the cross – section [B'D'] is equal to the 1st cathet of the right triangle. A cross section B'B0 is drawn through the point ΔZ = (ZD - ZB) equal to the distance length and perpendicular to B'D. This incision forms cathet 2.

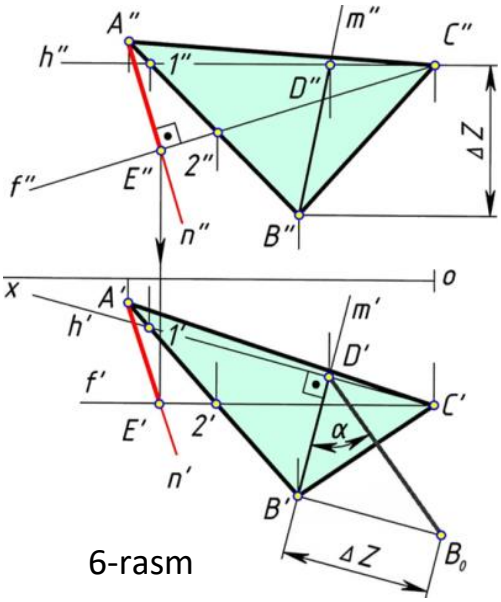
$$|B'B_0|=\Delta Z=Z_D-Z_B \text{ va}$$

$$|B'B_0| \perp [B'D]$$

Points B0 and D' are adjacent. This [B0D'] cross section forms the hypotenuse of the D'B'B0 right triangle. Its D ' end is ∠α. I.e. ∠α = (ABC) ^ H




5-rasm




6-rasm

**Answer. D ' = = (ABC)^ H**

U Through the C(C',C") end of the triangular ABC the frontal line f(f ',f ") is plotted (Figure 5).

In the horizontal projection of the Epirus, a horizontal projection of the F '(C'2') Frontal is drawn parallel to the [ox] axis through the C ' point. Then, the missing projection of Point 2 " is determined.This point lies in A"B". Points C "and 2" are adjacent. This line is denoted by f " and is called the frontal projection of the frontal.

C^'⊂f^' (C^' 1^' )‖[ox); C"⊂f"(C"1")

ABC is drawn through the A-end of the triangle with the line n(n',n") perpendicular to the line f (f ',f") (Figure 6). This line n(n',n") is the kata-most oblique line of the ABC triangle, and defines the Triangle by defining the angle of deviation V to β

β. the lines n(n',n") and f (f ',f ") intersect to form the point E(E',E"). This results in a cross section [AE].

$$A \subset n(n',n") \perp f(f',f"), n(n',n") \in ABC$$

$$n(n',n") \cap f(f',f") = E(E',E"), [AE] \in m$$

In the frontal projection of the Epirus,a"B" C" is drawn through the A" end of the Triangle n "perpendicular to the line f(f', f").

$$A" \subset n" \perp f"(C"2")$$

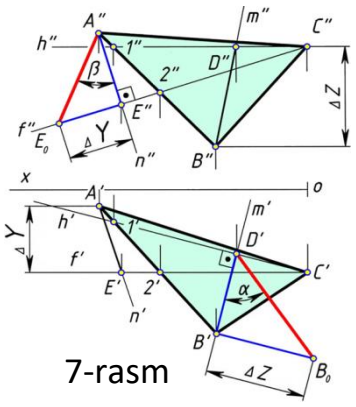
the lines n" and f "(C",C') intersect to form Point E".

n "∩f "=E " < Br>

In the horizontal projection, the e 'point F'(C', 2') belongs to the line.

E '∈ f'(C'2')

The points A' and E' are contiguous and marked n'.



7-rasm

A 'U E '= [A'E'] ∈ n'

The actual length of the [Ae] Cross is determined using the right-angled triangle method (Figure 7). This results in an eaa0 right-angled triangle. Its angle E is ∠β, which is the angle of inclination to V. That is, ∠β = (ABC) ^ V.

In the frontal projection of the Epirus, the cross – section [A"E"] is equal to the 1st cathet of the right triangle. Through a point"ΔY = (YC - YA) a cross section a" A0 is drawn, which is equal to the distance length and perpendicular to A"E". Kes a " A0ı cross section forms cathet 2.

$$|A"A_0| = \Delta Y = Y_C - Y_A \text{ va } |A"A_0| \perp [A"E"]$$

Points A0 and E" are adjacent. This / a0e" / Cross E"A" forms the hypotenuse of the A0 right triangle. Its E " TIP is ∠β.

Viz $\angle\beta$ = (ABC) ^ V

**Answer:** $\angle E"$ = $\angle\beta$ = (ABC) ^ V

Thus, when solving positional problems of this kind, drawing up a plan-algorithm using symbols, it becomes very easy to solve the problem as well as Remember the student. This increases student empowerment efficiency .

## LIST OF BIBLIOGRAPHY

1. Sindarova, S. (2023). AUTOCAD DASTURIDAN FOYDALANIB TALABALARNING IJODIY IZLANISHLARINI RIVOJLANTIRISH. *Наука и технология в современном мире*, *2*(14), 38-41.

2. Mirzaliyev, Z. E., Sindarova, S., & Eraliyeva, S. Z. (2021). Develop students' knowledge, skills and competencies through the use of game technology in the teaching of school drawing. *American Journal of Social and Humanitarian Research*, *2*(1), 58-62.

3. Sindarova, S. M., Rikhsibaev, U. T., & Khalilova, H. E. (2022). THE NEED TO RESEARCH AND USE ADVANCED PEDAGOGICAL TECHNOLOGIES IN THE DEVELOPMENT OF STUDENTS'CREATIVE RESEARCH. *Academic research in modern science*, *1*(12), 34-40.

4. Mirzaliev, Z., Sindarova, S., & Eraliyeva, S. (2019). Organization of Independent Work of Students on Drawing for Implementation of the Practice-Oriented Approach in Training. *International Journal of Progressive Sciences and Technologies*, *17*(1), 297-298.

5. Sindarova, Shoxista Maxammatovna (2021). O'YINLI TEXNOLOGIYALARDAN FOYDALANISH ORQALI O'QUVCHILARNING BILIM, KO'NIKMA VA MALAKALARINI SHAKLLANTIRISH ( CHIZMACHILIK FANI MISOLIDA). Oriental renaissance: Innovative, educational, natural and social sciences, 1 (11), 686-691.

6. Maxammatovna, S. S. (2022). Methods of Solving Some Problems of Teaching Engineering Graphics. *Spanish Journal of Innovation and Integrity*, *7*, 97-102.

7. Рихсибоев, У. Т., Халилова, Х. Э., & Синдарова, Ш. М. (2022). AutoCAD дастуридан фойдаланиб деталлардаги ўтиш чизиқларини куришни автоматлаштириш. *Science and Education*, *3*(4), 534-541.

8. Bobomurotov, T. G., & Rikhsiboev, U. T. (2022). Fundamentals Of Designing Triangles Into Sections Equal 5, 7, 9, 11, 13, 15, 17 And 19. *Central Asian Journal of Theoretical and Applied Science*, *3*(2), 96-101.

9. Makhammatovna, S. S. (2023). Pedagogical and Psychological Aspects of Improving the Methods of Developing Students' Creative Research. *Web of Semantic: Universal Journal on Innovative Education*, *2*(3), 37-41.

10. Abdurahimova, F. A., Ibrohimova, D. N. Q., Sindarova, S. M., & Pardayev, M. S. O. G. L. (2022). Trikotaj mahsulotlar ishlab chiqarish uchun paxta va ipak ipini tayyorlash va foydalanish texnologiyasi. *Science and Education*, *3*(4), 448-452.

11. Sindarova, S. (2023). TALABALARDA IJODIY IZLANUVCHANLIKKA XOS SIFATLARNI SHAKILLANTIRISH USULLARI. *Академические исследования в современной науке*, *2*(11), 23-29.

12. Sindarova Shoxista Maxammatovna, & Maxmudov Abdunabi Abdug'afforovich (2022). MUHANDISLIK GRAFIKASI FANLARINI O'QITISHDA IJODIY IZLANISH TALAB QILINADIGAN MASALALAR. Ta'lim fidoyilari, 24 (17), 2-275-284.

13. Rixsiboyev, U. T., & Maxammatovna, S. S. (2023). TEXNOLOGIK VOSITALAR ORQALI INNOVATSION DARS TASHKIL QILISH. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, *20*(8), 168-175.

14. Shoxista, S. Abdug'aforovich, MA (2022). *METHODOLOGY OF STUDENT CAPACITY DEVELOPMENT IN TEACHING ENGINEERING GRAPHICS. Gospodarka i Innowacje*, *22*, 557-560.

15. Sindarova, S. M. (2021). IQTIDORLI TALABALAR BILAN SHUG'ULLANISH METODIKASI.(MUHANDISLIK FANLARI MISOLIDA). *Oriental renaissance: Innovative, educational, natural and social sciences*, *1*(8), 32-39.

16. Shoxista, S. (2023). MUHANDISLIK GRAFIKASI FANINI O'ZLASHTIRISHDA ZAMONAVIY DASTURDAN FOYDALANISH ORQALI TALABALAR IJODKORLIGINI RIVOJLANTIRISH. *Innovations in Technology and Science Education*, *2*(9), 780-790.

17. Синдарова, Ш. (2023). Yosh ijodkorlarni qo'llab quvvatlash va ular bilan ishlashni tashkil qilish. *Общество и инновации*, *4*(2), 177-181.

18. Makhammatovna, S. S. (2023). DEVELOPMENT OF ENGINEERING GRAPHICS STUDENTS TO CREATIVITY THROUGH IMAGINATION VIEWS. *Лучшие интеллектуальные исследования*, *3*(1), 22-26.

19. Takhirovich, A. U., & Makhammatovna, S. S. (2023). Forming Creativity through the Use of Modern Educational Tools. *International Journal of Formal Education*, *2*(6), 404-409.

20. Ma marajabov, M. E. (2024). METHODOLOGICAL CAPABILITIES OF

«EXPERIENCED TEACHING» OF THE DEVELOPMENT OF STUDENT CREATIVITY WITH THE HELP OF COMPUTER GRAPHICS PROGRAMS. *Экономика и социум*, (5-1 (120)), 813-818.

21. Sindarova, S. M. (2024). METHODOLOGY OF STUDENT CAPACITY DEVELOPMENT IN TEACHING ENGINEERING GRAPHICS. *Академические исследования в современной науке*, *3*(25), 194-199.

22. Riksiboyev, U. T. (2022). THEORY OF CREATING PERSPECTIVE IMAGES. *Scientific Impulse*, *1*(2), 438-443.

23. Синдарова, Ш. М., & Ортиков, О. А. (2022). Использование современных учебных пособий в обучении.

24. Синдарова, Ш. М., Абдурахимова, Ф. А., & Халилова, Х. Э. (2022). МЕТОДИКА ОРГАНИЗАЦИИ САМОСТОЯТЕЛЬНОЙ РАБОТЫ СТУДЕНТОВ (НА ПРИМЕРЕ НАУКИ ИНЖЕНЕРНОЙ ГРАФИКИ). In *Сборник научных трудов по итогам Международной научной конференции, посвященной 135-летию со дня рождения профессора ВЕ Зотикова* (pp. 37-43).

25. Рихсибоев, У. Т., Халилова, Х. Э., & Синдарова, Ш. М. (2022). AutoCAD дастуридан фойдаланиб деталлардаги ўтиш чизиқларини қуришни автоматлаштириш. *Science and Education*, *3*(4), 534-541.

26. Mirzaliyev, Z. E., & Sindarova, S. TA'LIM SAMARADORLIGINI OSHIRISHDA AXBOROT TEXNOLOGIYALARIDAN FOYDALANISH (CHIZMACHILIK FANI MISOLIDA). *ТОШКЕНТ-2021*, 33.