KO‘PYOQLIKLARNI QURISHDA IZOMETRIK PROEKSIYADA HOSIL QILISHNING QULAY USULLARI

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Annotatsiya
Ushbu maqolada izometrik proeksiyada ko‘pyoqliklar yoki jismlar proeksiyalarini hosil qilish usullari yoritilgan.

Annotation
This paper describes methods for constructing simple geometric surface or body projections in isometric projection.

Kalit so‘zlar: Proeksiya, izometriya, tekislik, nuqta, nur, fazo, perpendikulyar, prizma, diagonal, abstrakt.

Keywords: Projection, isometry, plane, point, light, space, perpendicular, prism, diagonal, abstract.

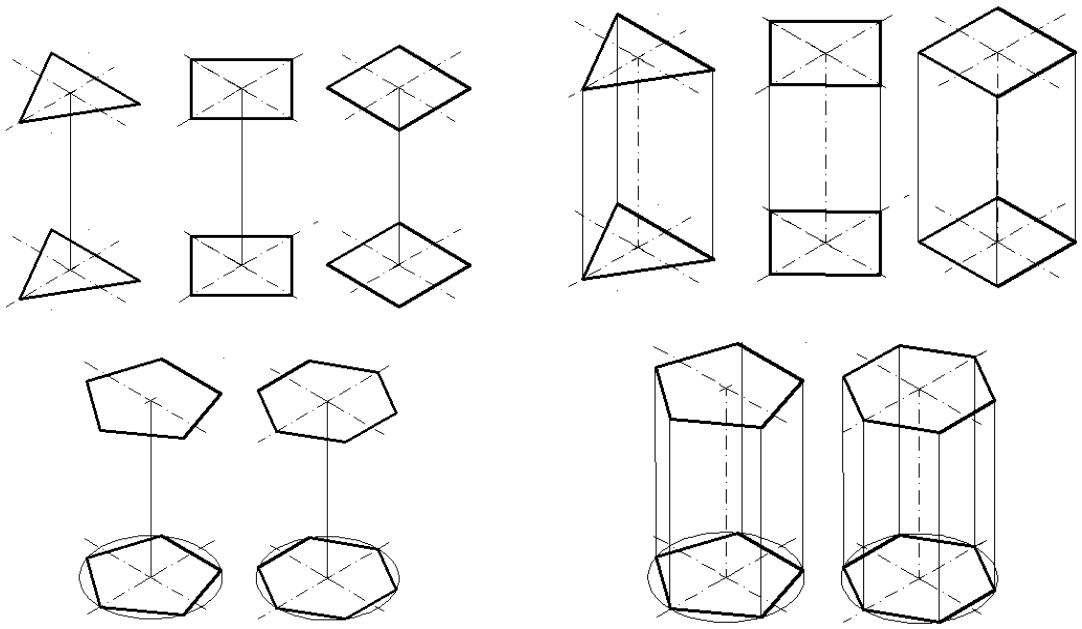
Ushbu maqolada umum ta’lim maktablarida chizmachilik fanida aksonometrik proeksiyalardan izometrik proeksiyada ko‘pyoqliklarni qurishda qulay usullari ko‘rsatib o‘tilgan bo‘lib muntazam ko‘pyoqlik piramida, prizmalarni yasash usullari ko‘rsatib o‘tilgan, 1- rasm.

Hayoti tajribalardan ma’lumki, amaliy tadbiqda aksonometrik proeksiyalarni sodda va qulay qurish uchun davlat standarti O‘zDST 2.317-69 tomonidan buyum o‘lchamlarini, aksonometrik o‘qlar bo‘ylab o‘zgarish koeffitsientlariga ko‘paytirmay, asliga teng, ya’ni o‘zgartirmay olish belgilangan.

Agar chizmada asosi muntazam ko‘pburchak bo‘lgan oddiy prizma sirti yoki prizma berilgan bo‘lsa, ularning izometriyasini qurish asoslarining izometriyalarini yuqoridagi algoritm va grafik amallar yordamida qurishdan boshlanadi. Ularning asosining izometriyasi qurilsa, prizmalarni ikki hil usulda yasash mumkin.

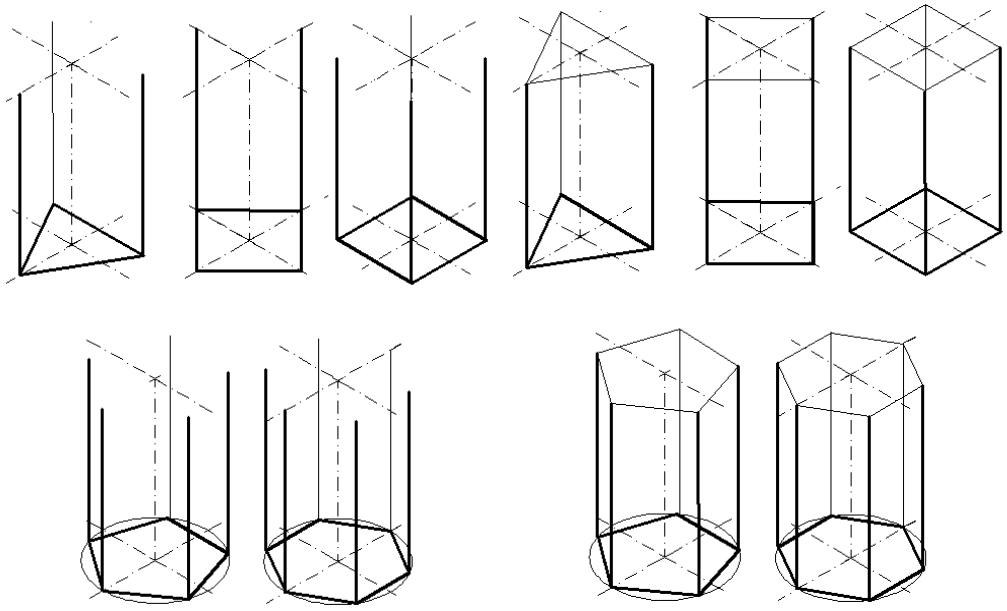
1- usulda prizmalarning yuqori asoslari berilgan balandlikda tayanch asoslari kabi yasaladi va uning qirralari o‘tkaziladi. Ko‘rinmas qirralari shtrix chiziqlar bilan tasvirlanadi, (1- rasm) va ularning izometriyalari quriladi.

2- usulda prizma asoslari uchlaridan ular qirralari berilgan balandlikda o‘tkaziladi va ularning uchlarini birlashtirib prizmaning yuqori asosi yasaladi, (2-rasm). So‘ngra ularning ko‘rinmas qirralari shtrix chiziqlar bilan tasvirlanib ularning yaqqol tasvirlari-izometriyalari bajariladi.



1- rasm

Har ikkala usulda ham prizma sirtlari hosil bo‘ladi. Agar qattiq jism prizma sirti bilan chegaralangan bo‘lsa, oddiy qattiq jism deb ataluvchi prizma hosil bo‘ladi. Geometriyada prizmalar asoslari bilan chegaralangan mavjud yassi sohani, biror (qirra deb ataluvchi) to‘g‘ri chiziq bo‘ylab uzluksiz harakati natijasida hosil bo‘ladi.

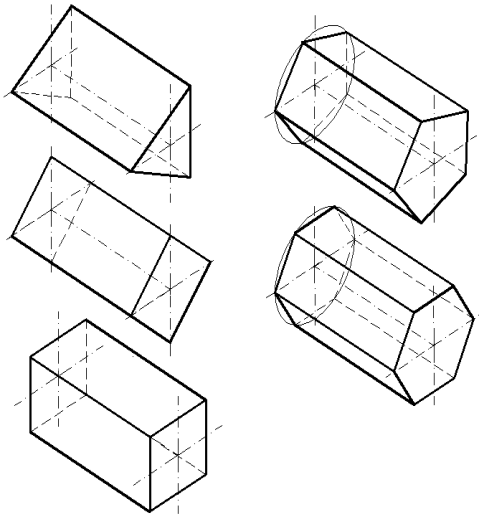


2- rasm

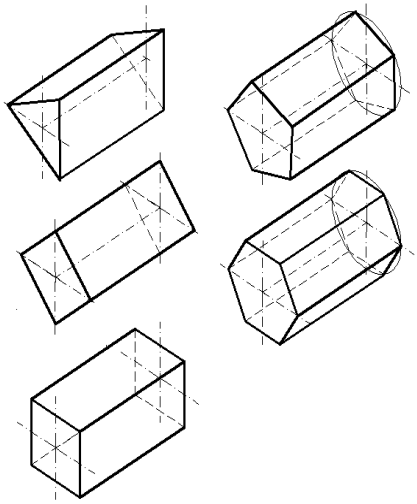
Shuningdek, bu usullarda ham prizmalarning o‘qlari va qirralari Z o‘qqa parallel bo‘ladi.

3- rasmda olddan ko‘rinish tekisligiga perpendikulyar joylashgan prizmalarning izometriyasi keltirilgan. Ularning o‘qlari va qirralari Y o‘qqa parallel bo‘ladi.

4- rasmda chapdan ko‘rinish tekisligiga perpendikulyar joylashgan prizmalarning izometriyasi keltirilgan. Ularning o‘qlari va qirralari X o‘qqa parallel bo‘ladi[1].



3- rasm



4- rasm

Agar asosi ko‘pburchak bo‘lgan piramidani chizmasi bo‘yicha izometriyasini qurish lozim bo‘lsa, ularning asoslari izometriyasi prizma asoslarini yasash kabi bajariladi. Ularni balandliklari o‘q bo‘ylab o‘lchab qo‘yiladi va hosil bo‘lgan piramida uchi bilan asoslari uchlarini birlashtirib piramida quriladi.

Prizma va piramidalar o‘qlarini og‘dirib, og‘ma prizma yoki piramidalar yasash mumkin.

Agar piramida kesik bo‘lsa, uning yuqori asosi pastkisi kabi yasaladi va asoslar uchlari birlashtirib kesik piramidalar yasaladi.

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