

AYLANISH SIRTLARNI UMUMIY VAZIYATDAGI TEKISLIK BILAN KESISHGAN CHIZIG'INI VA KESIM YUZASINING HAQIQIY KATTALIGINI ANIQLASH.

REJA

1. Aylanish sirtlarni umumiy vaziyatdagi tekislik bilan kesishgan chizig'ini aniqlashga oid grafik masalalar yechish.

Adabiyotlar:

1. Murodov Sh.K., Hakimov L.Q., Xolmurzayev A. Chizma geometriya. –T.: “Iqtisod-moliya”, 2006-2008. (145-193-betlar).
2. Qulnazarov B.B. Chizma geometriya. –T.: “O‘zbekiston”, 2006. (58-78 betlar).

2.2-masala. *Aylanish sirtini umumiy vaziyatdagi tekislik bilan kesishish chizig'i va kesim yuzasining haqiqiy kattaligi aniqlansin (6-rasm).*

1-bosqich. Bizning masalada asosi H da yotgan aylanish sirtini umumiy vaziyatdagi $P(P_H, P_V)$ tekislik bilan kesishgan chizig'ini aniqlash ko'rsatilgan. Dastlab berilgan variant chizma qog'oziga ko'chirib chiziladi (6-rasm, a).

2-bosqich. Bu bosqichda sirtni tekislik bilan kesishgan xarakterli nuqtalari aniqlanadi (6-rasm, b). Buning uchun sirtning $i(i', i'')$ aylanish o'qi orqali V_{1H} frontal tekislik o'tkaziladi va uning $P(P_H, P_V)$ tekislik bilan kesishgan $f(f', f'')$ chizig'i aniqlanadi. $f(f', f'')$ chiziq sirtning bosh meridian chizig'i bilan $A(A', A'')$ va $B(B', B'')$ nuqtalarda kesishadi.

Yana sirtning $i(i', i'')$ aylanish o'qi orqali $P(P_H, P_V)$ tekislikka perpendikular $T(T_H, T_V)$ tekislik o'tkazilib, ularning o'zaro kesishgan $23(2'3', 2''3'')$ chizig'i aniqlanadi. Suningdek, $T(T_H, T_V)$ tekislik sirtning meridiani bo'yicha ham kesadi. Biroq bu meridianning frontal proyeksiyasini qurish qo'shimcha yasashlarni talab qilishini hisobga olib, u aylantirish usulida bosh meridian chizig'i vaziyatiga keltiriladi. Buning natijasida $23(2'3', 2''3'')$ chiziqning ham haqiqiy kattaligi $2_{131}(2'_{13'1}, 2''_{13''1})$ hosil bo'ladi. $2_{131}(2'_{13'1}, 2''_{13''1})$ ni sirt bosh meridiani bilan kesishgan $D_1(D'_1, D''_1)$ va $E_1(E'_1, E''_1)$ nuqtalarini qayta proyeksiyalash orqali izlanayotgan $D(D', D'')$ va $E(E', E'')$ nuqtalar aniqlanadi.

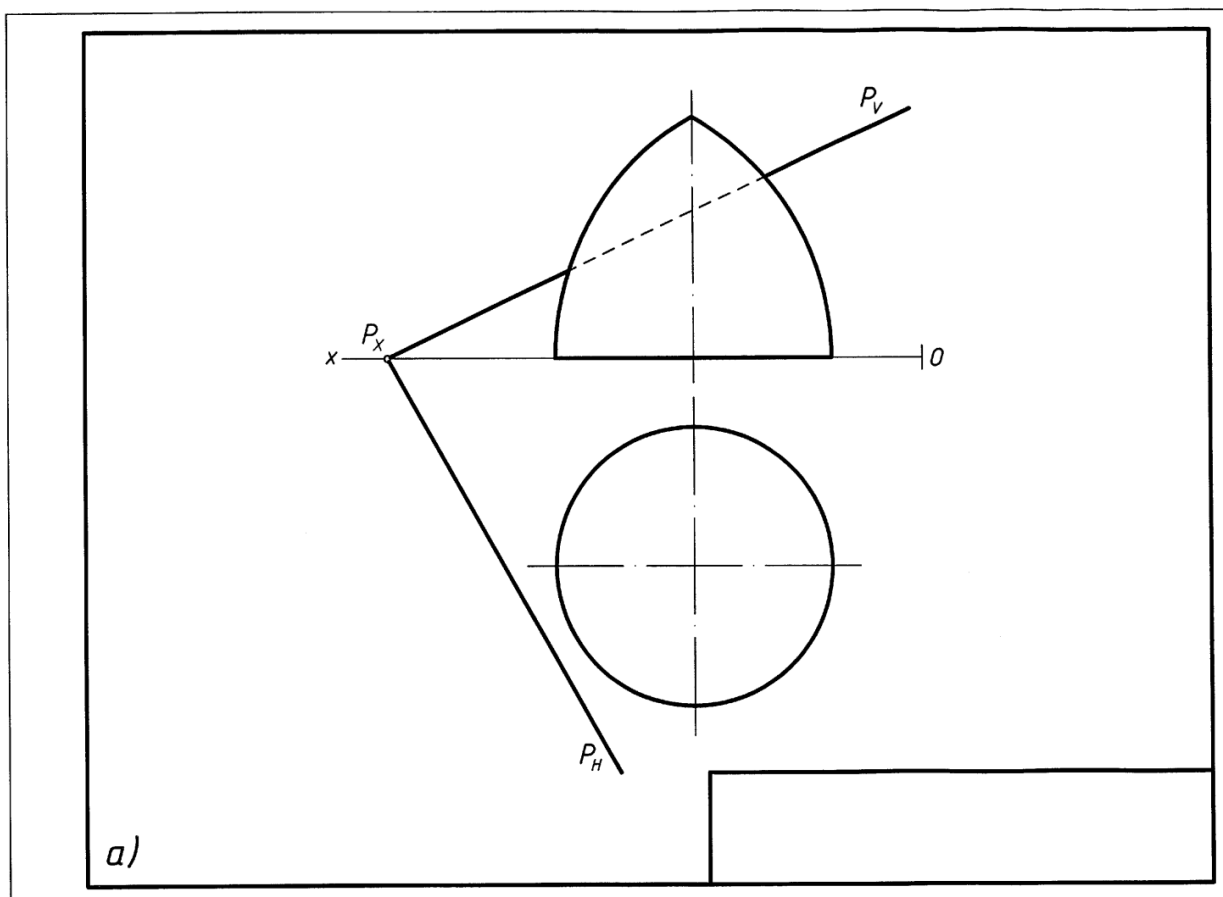
3-bosqich. Endi sirtni tekislik bilan kesishgan chizig'ining oraliq nuqtalari aniqlanadi (6-rasm, c). Buning uchun gorizontalar $N_1(N_{1V})$ va

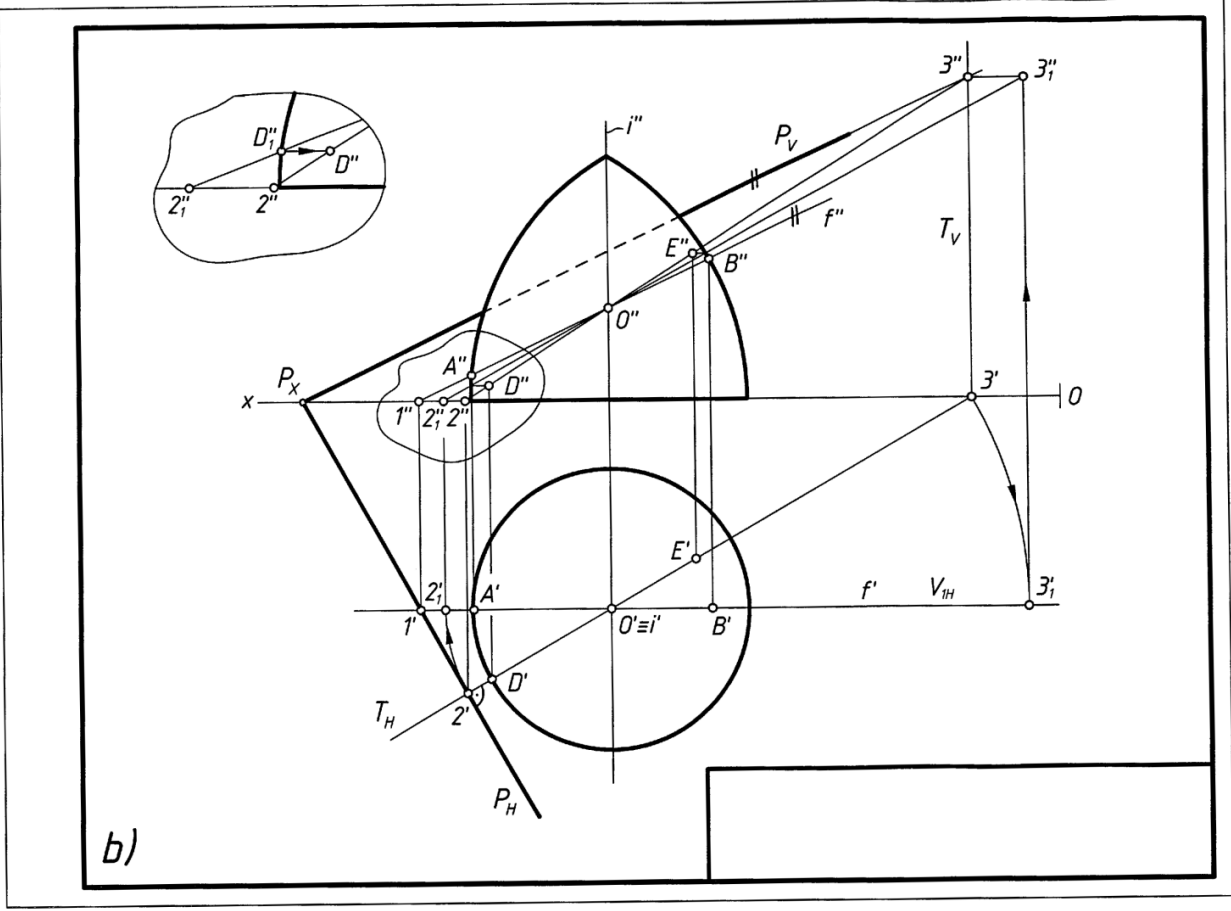
$N_2(N_{2V})$ tekisliklar o'tkaziladi va ularni $P(P_H, P_V)$ tekislik bilan kesishgan $h_1(h'_1, h''_1)$ va $h_2(h'_2, h''_2)$ chiziqlari topiladi. shuningdek, $N_1(N_{1V})$ va $N_2(N_{2V})$ tekisliklar sirtini gorizontallari bo'yicha (aylana) kesadi. $h_1(h'_1, h''_1)$ va $h_2(h'_2, h''_2)$ chiziqlar sirt gorizontallari bilan $M(M', M'')$, $F(F', F'')$, $L(L', L'')$, $T(T', T'')$ oraliq nuqtalarda kesishadi. Barcha aniqlangan $A(A', A'')$, $D(D', D'')$, $L(L', L'')$, $M(M', M'')$, $B(B', B'')$, $E(E', E'')$, $F(F', F'')$, $T(T', T'')$ nuqtalar lekalo yordamida silliq va ravon tutashtiriladi va sirtini tekislik bilan kesishgan chizig'iga ega bo'linadi hamda uning frontal proyeksiyasida ko'rinar-ko'rinmas qismlari ajratiladi.

4-bosqich. Bu bosqichda konusni tekislik bilan kesishgan chizig'i yuzasining haqiqiy kattaligi jipslashtirish (ustma-ust qo'yish) usulida aniqlanadi (6-rasm, d) va $AoDoLoMoBoEoFoTo$ ga ega bo'linadi (avvalgi vazifalarda jipslashtirish usuli tushuntirilgan). Chizmaning hoshiya chizig'i, asosiy yozuv o'rni chiziladi va to'ldiriladi hamda chizma taxt qilinadi.

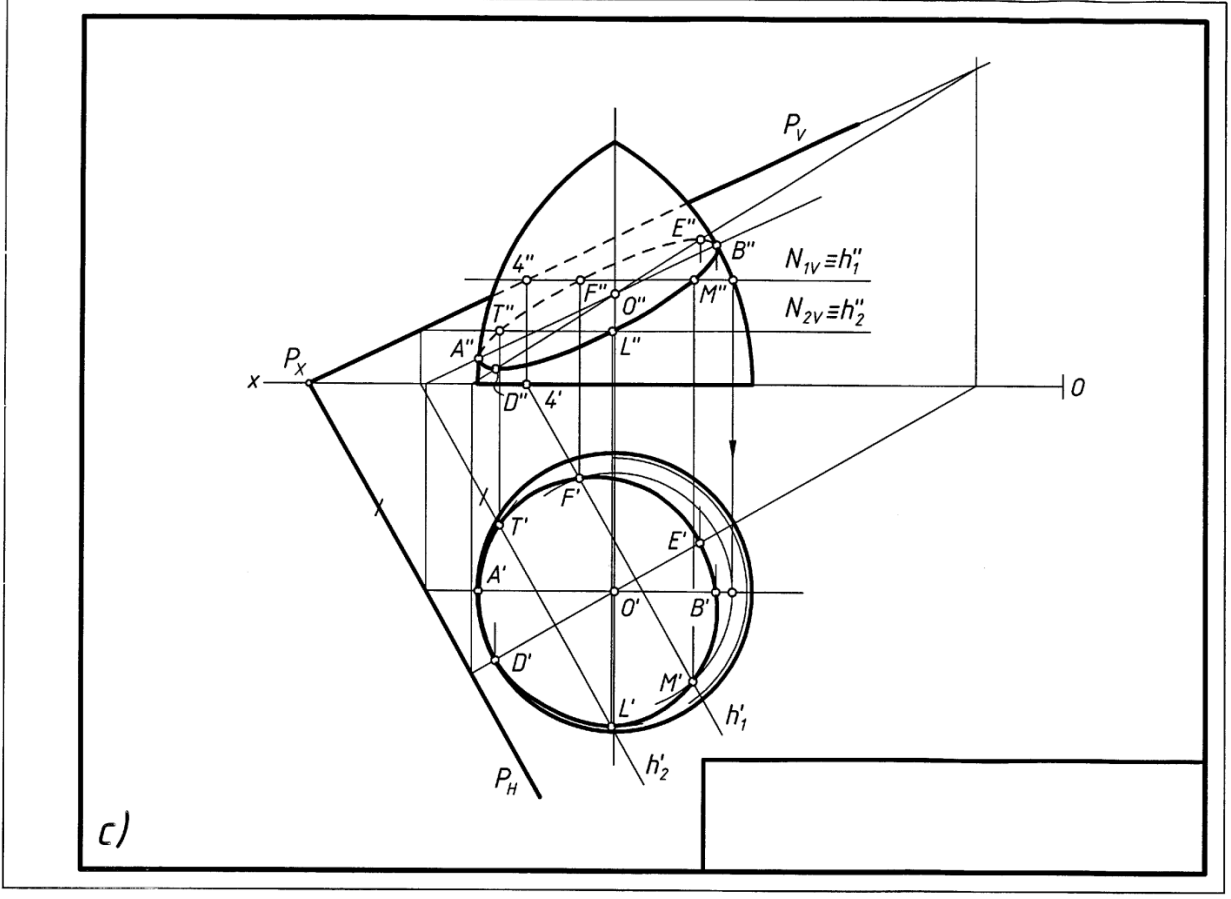
2.2-masalani bajarish uchun variantlar 5-jadvaldan olinadi.

II grafik vazifaning 2-topshirig'ini chizish bosqichlari



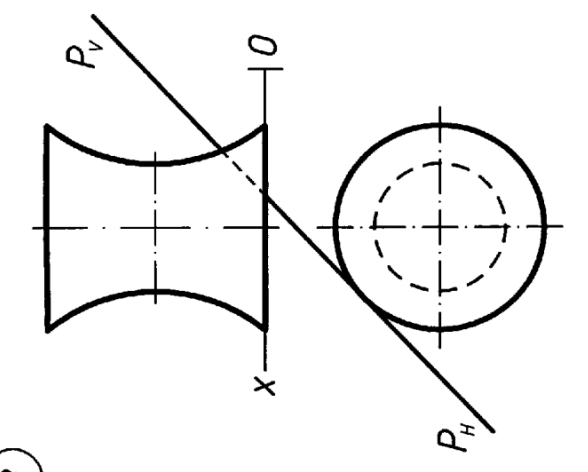
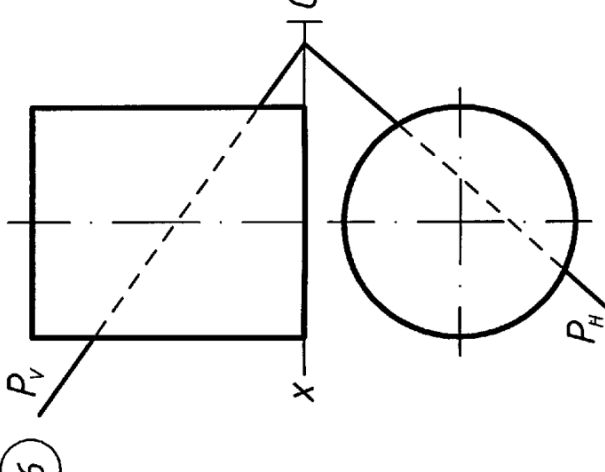
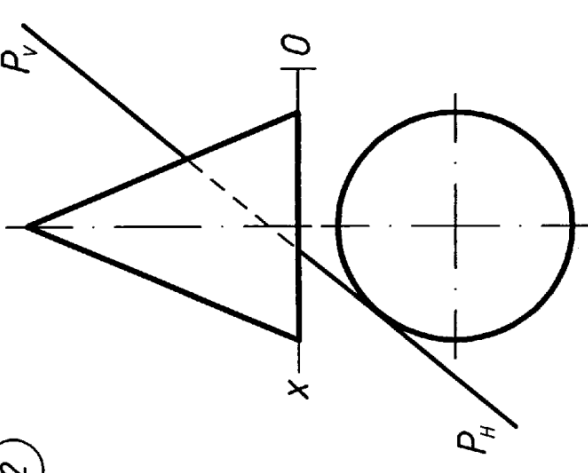
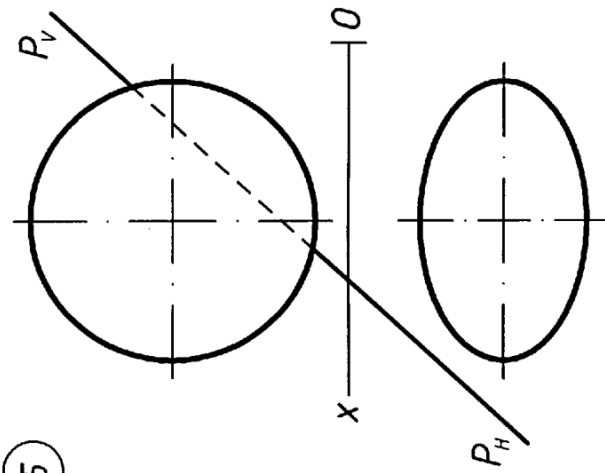
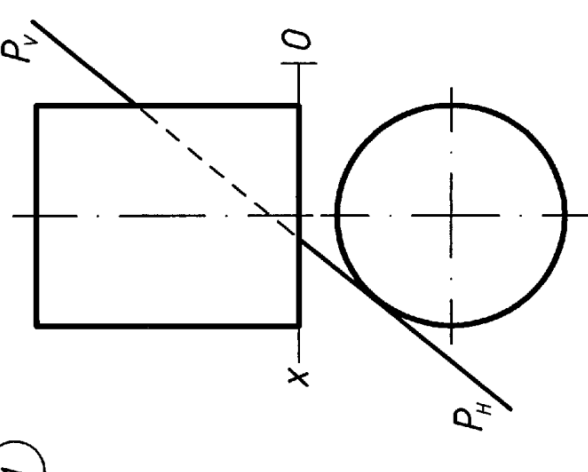
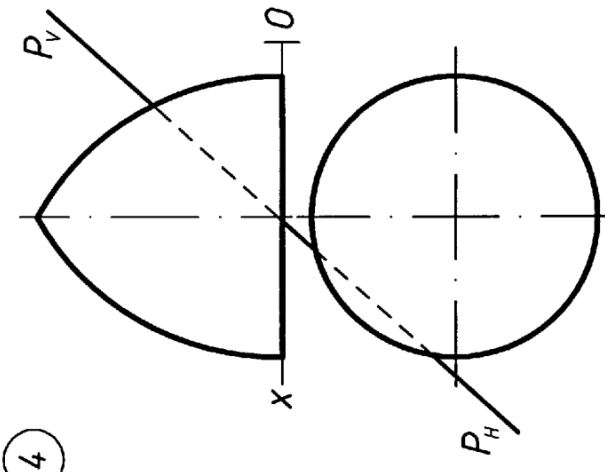


b)



c)

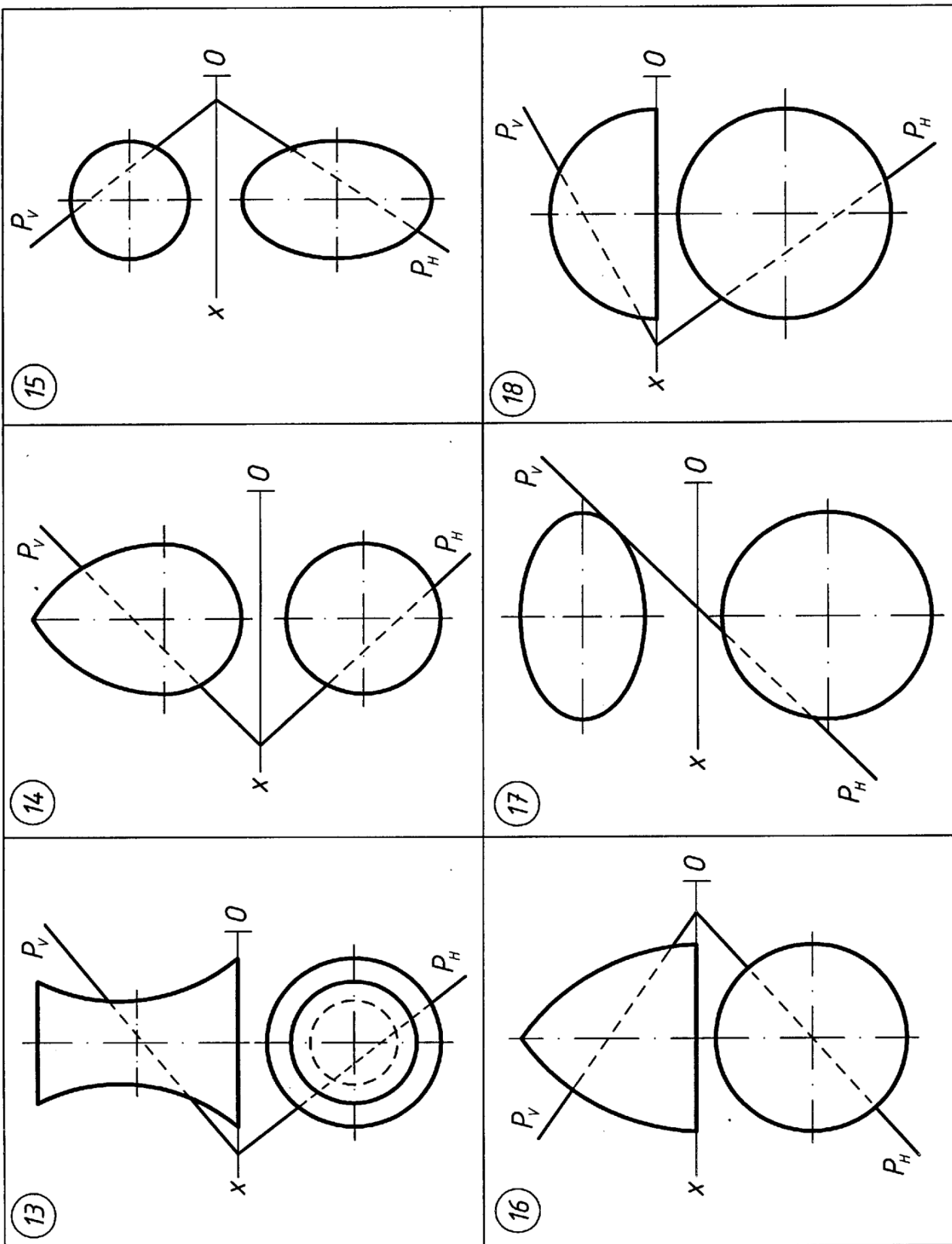
5-jadval

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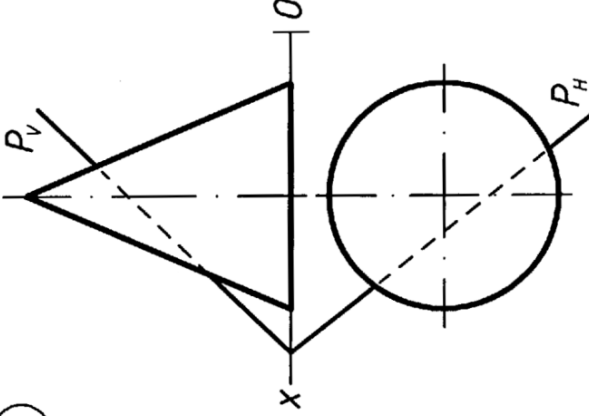
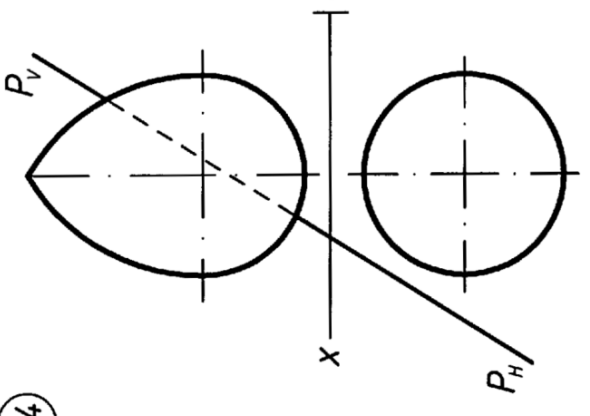
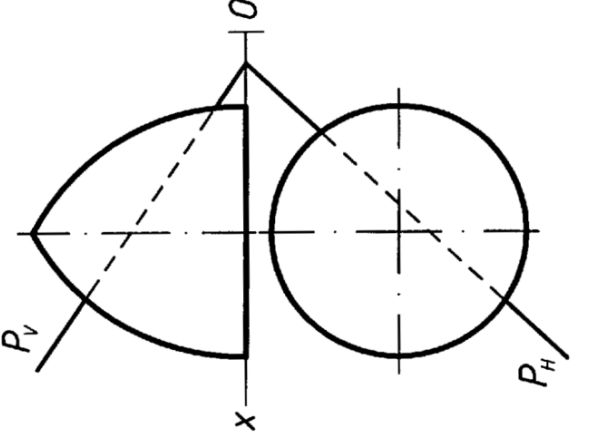
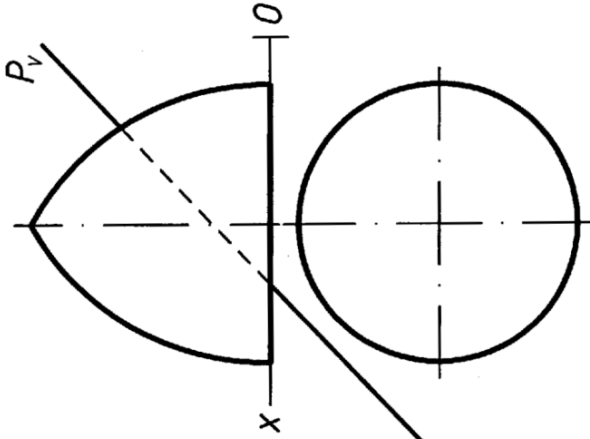
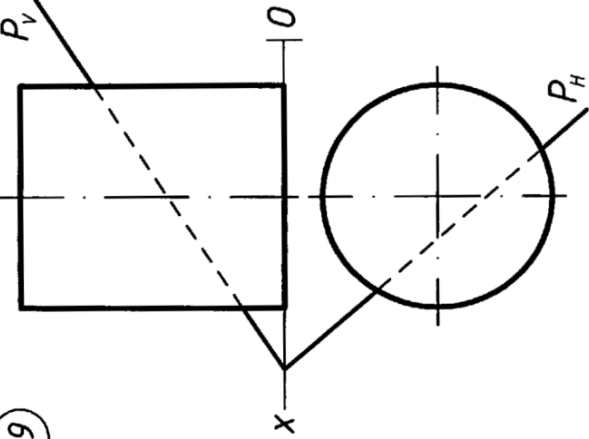
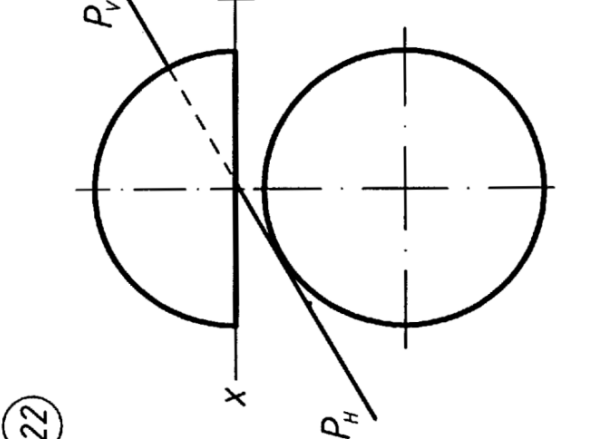
5-jadval davomi

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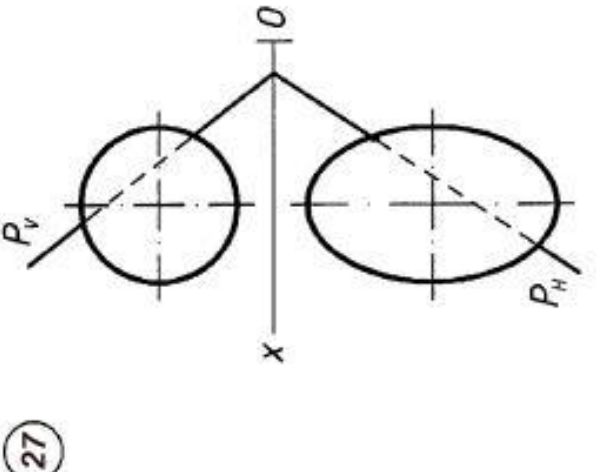
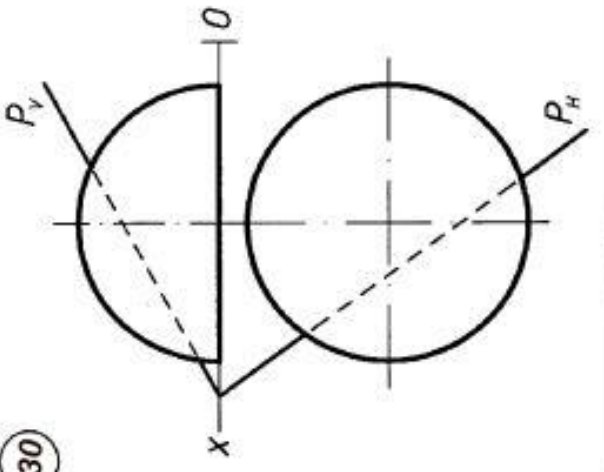
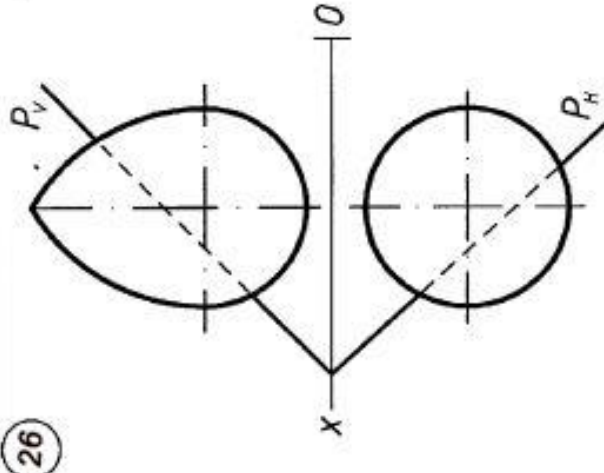
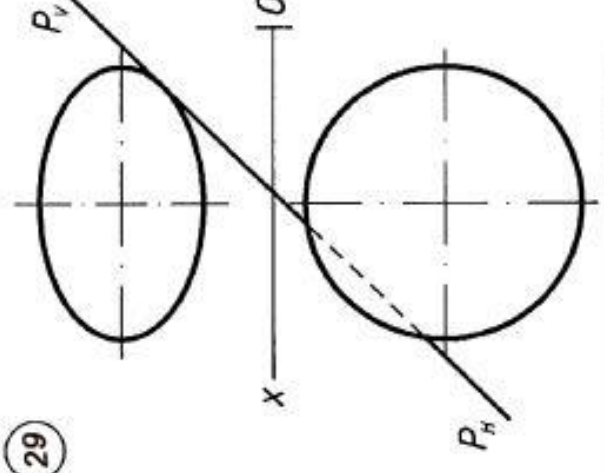
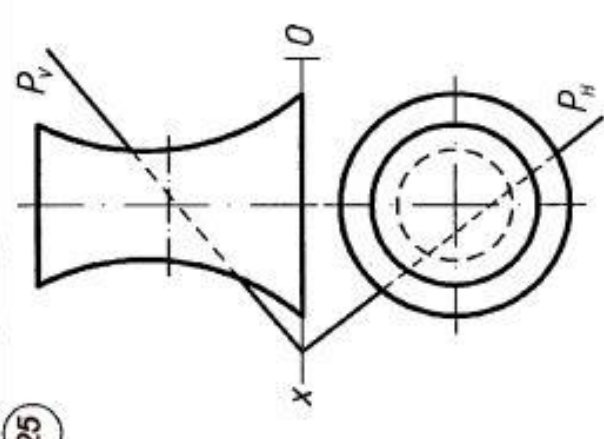
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<p>21</p> 	<p>24</p> 
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5-jadval davomi

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