Khl^_j`Zgb_

Pkev jZ[hlu 4
Khl^_j`Zgb_ jZ[hlu 4
H[hjm^h\Zgb_ 4
Ihjy^hd \uiheg_gby jZ[hlu 5
Bkke_^h\Zgb_ jZ[hlu h^ghnZaghlh ljZgknhjfZlhj ohehklh]h 5
Bkke_^h\Zgb_ jZ[hlu h^ghnZaghlh ljZgknhjfZlhj 6
Dhgljhevgu_ \hijhku 8
Kibkhd bkihevah\Zgguo bkhqgbdh\ 11
Ijbeh`_gb;eZgd eZ[hjZlhjgh c jZ[hlu 12

P_ev jZ[hlu

ljbh[j_klb ijZdlbq_kdb_ gZ\udb bkke_^h\Zgb h^ghnZagh]h ljZgknhjfZlhjZ ijb jZ[hl_ gZ Zdlb\gm gZ]jmadm ljhba_klb ihkljh_gb_ hkgh\guo oZjZdl_ ljZgknhjfZlhjZ

Kh^_j`Zgb_ jZ[hlu

Kh[jZlv kb_ufZm ohehkh]Zh h^ghnZagh]h ljZgknhj

AZibkZlv ihdZaZgby ijb[hjjZkq_jhbawnklbpb_g ljZgknhjfZpbb

3. Kh[jZlv kob_kmulZgby h^ghnZagh]h ljZgknhjfZlhjZ gZ]jmadAZibkZlv ihdZaZgby yeijb[hjjZkq_ lo agZq_gbc Zdl j_Zdlb\ghc gZ]jmadb

4. ljhba_klb jZkq_l dhwnnbpb_glZ fhsghklb b ihe_agh]h ^_ckl\by ljZgknhjfZlhjZ

lhkljhblv \g_rgb_ b wg_j]_lbq_kdb_ oZjZdl_jb ljZgknhjfZlhjZ Hij_^_eblv iZ^_gb_ gZijy`_gby

6 K^_eZlv \u\h^

H[hjm^gh_

EZ[hjZlhjguc kl_g^ EwWKdljhbaf_jbl_evgu_ ijb Zfi_jf_lju \hevlf_lju \Zllf_lju kh_^bgbl_evg eZ[hjZlhjguc Z\lhljZgknhjfZlhj E:LJ

Ihjy^hd \uiheg_gby jZ[hlu

Bkke_^h\Zgb_ jZ[hlu hl^Zbkkeh]h jZ \ j_`bf_ ohehklh]h oh^Z

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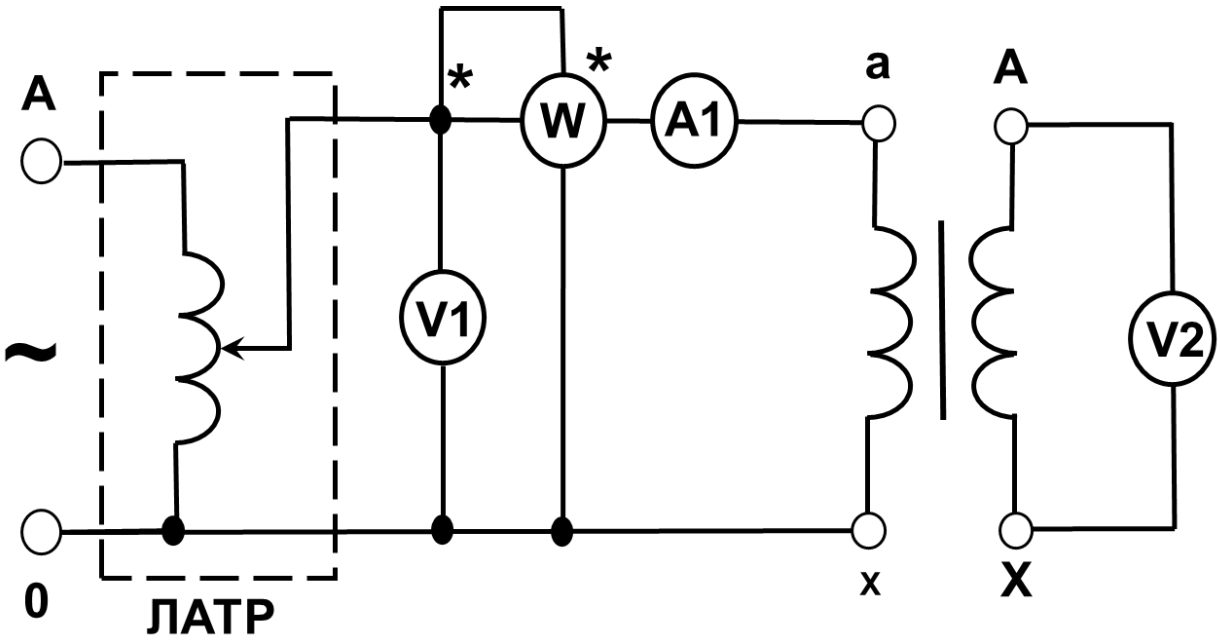

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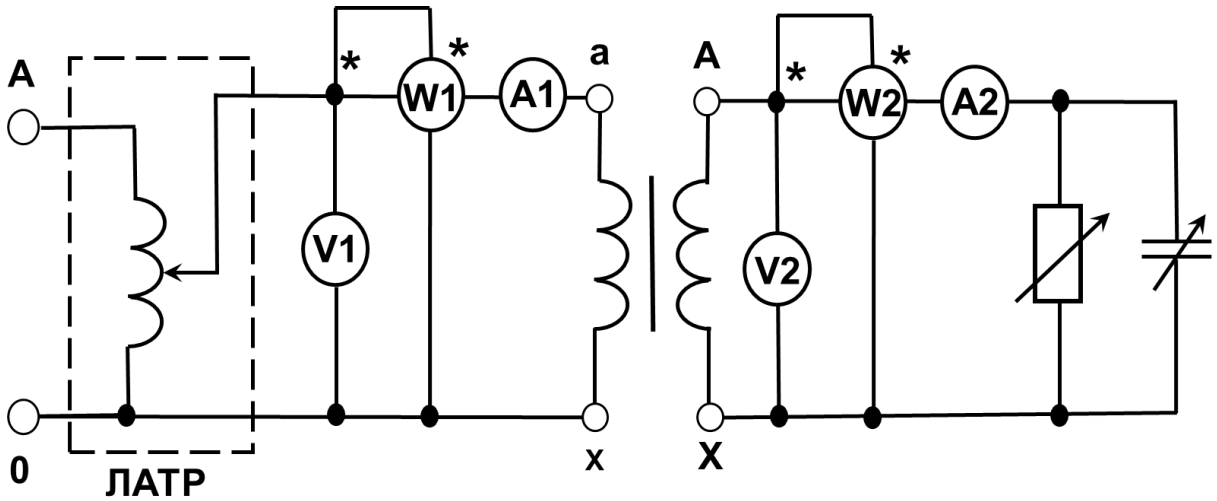
Dh \oh^m p_ib ihdZaZgghc gZ jbkmgdm_fuich^de bklhqgbd iblZgby MklZgZ\eb\Zxl \oh^gh_ gZijy`_g qlh[u gZijy`_gb_ i_j\bqghc h[fhldb ljZgknhjfZlhjZ 11,5 < ghfbgZevgh_ agZq_gb_ lhdZaZgby ijb[hjh\ a nhjf_ lZ[ebpu

LZ[ebp±ZlZjZf_lju ljZgknhjfZlhjZ \ j_`bf_ ohehklh

Baf_j_gh						<uqbke_gh		
I_2, A	U_2, B	P_2, <l	I_1, A	U_1, B	P_1, <l	FR_1V		FR_2V

4.2 Bkke_^h\Zgb_ jZ[hlu h^ghnZagh]h ljZgknhjgZ]jmadhc

>ey bkke_^h\Zgb_ jZ[hlu h^ghnZagh]h ljZgknhjfZlhgZ]jmakdhc[bjZxl ko_fm ihdZaZgg2mx gZ jbkmgd_



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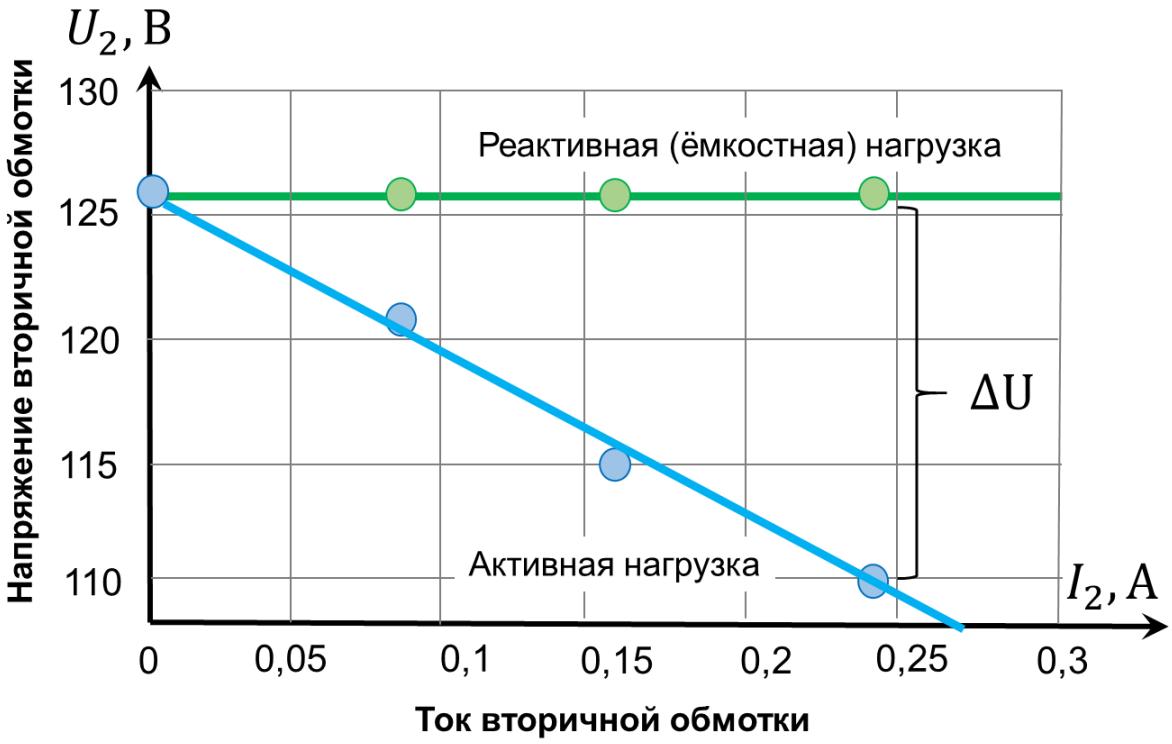
Dh \oh^m phdiZaZigghc gZ jbkmgd_ ih^dexqZxl bklhqgbd iblZgby MklZgZ\eb\Zxl \oh^gh_ gZijy`_gqlh[u gZijy`_gb_ i_j\bqghc h[fhldb ljZgknhjfZlhjZ 11,5 < ghfbgZevgh_ agZq_gb_ < ijhp_kk_ wdki_jbfih^^_j\Zxl g_baf_gguf

<gZqZe_ d \u\h^Zf \lhjbqghc h[fhldb ljZgknhjfZlZdlb\gmx gZ]jmadm ij_^klZ\e_ggmx eZfiZfb gZdZijb[hjh\ ijb jZaghf qbke_ \dexq_gguo eZfi aZghkyl \lZ[ebpu AZl_f ih^dexqZxl j_Zdbmgmjx_^kZZj\e_ggdhg^_gkZlhjhf k baf_gy_fhc zfdhklvx lhdZaZgby ijagZq_gbb zfdhklb dhg^_gkZlhjZ lZd`_ aZghkyl \ lZ[2.

L Z [e b p ± Z l Z j Z f _ l j u l j Z g k n h j f Z l h j Z \ j _ ` b f _ i h ^ g Z] j

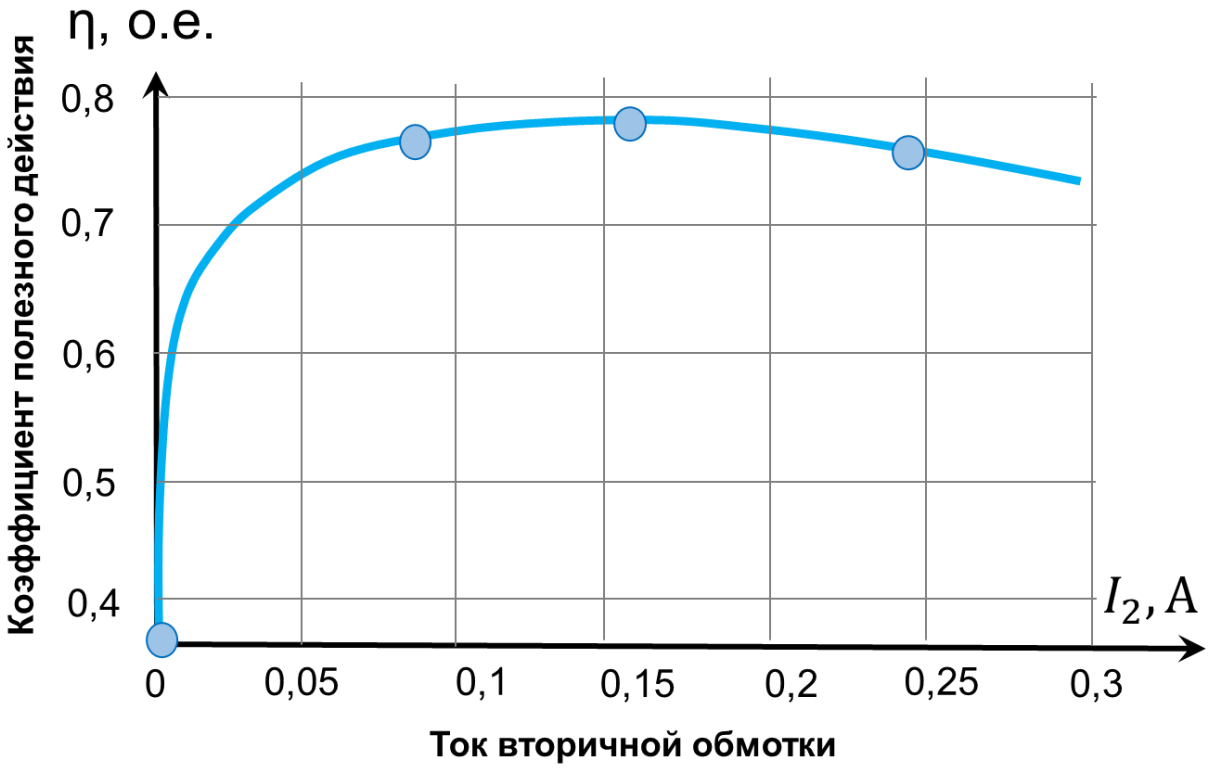
	Baf_j_gh			<uqbke_gh					
	I_2, A	U_2, B	P_2, <l	I_1, A	U_1, B	P_1, <l	F R_1V		F R_2V
R1									
R2									
R3									
C1									
C2									
C3									

l h ^ Z g g u f l Z [e b p u k l j h y l k y \ g _ r g b _ o Z j l j Z g k n h j f Z $U_2 = f(I_2)$ i j b j Z [h l _ g Z Z d l b \ g m x b j _ Z d l b \ g m l j b f _ j i h k l j h _ g b y \ g _ r g b o o Z j Z d l _ j b k l b d i j _ ^ k l Z \ e _ g



J b k m g h ± d < g _ r g b _ o Z j Z d l _ j b k l b d b h ^ g h n Z a g h] h l j i j b j Z [h l _ g Z Z d l b \ g m x b j _ Z d l b \ g m x g Z] j m a d m

K ihfhsvx \uqbke_gbc hijd_hwey_bkby_gl ihe_ag ^_ckl\by h^ghnZagh]h ljZgknhjfZlhjZ =jZnbd _]h l gZ]jmadb ijb_^_g gZ jbkmgd_



Jbkmghd± AZ\bkbfhklv DI> h^ghnZagh]h ljZgknh gZ]jmadb

Dhgljhevgu_ \hijhku

1. Ihykgbl_ gZagZq_gb_ ljZgknhjfZlhjZ
2. H[tygkbl_ ijbgpbi jZ[hlu h^ghnZagh]h ljZgknhj
3. DZd b k dZdhc p_evx ijh\h^blky hiul oh ljZgknhjfZlhjZ"
4. H[tykgbl_ ihq_fm dhwnnbpb_gl ljZg ljZgknhjfZlhjZ hij_^_ey_lky ba hiulZ ohehklh]h oh^Z
5. Ihq_fm ihl_jb fhsghklb \ fZ]gbkmihhjZ^hjZg aZ\bkyl hl lhdZ gZ]jmadb"

6. DZd b k dZdhc p_evx ijh\h^blvky hiul dhjhl ljZgknhjfZlhjZ"

7. lhq_fm ijb hiul_ dhjhldh]h aZfudZgby fh`gl ihl_jyfb fhsghklb \ fZ]gblhijh\h^_ ljZgknhjfZlhjZ"

8. lhq_fm ijb baf_g_gbb lhdZ \hh[fWlhqjbqgh ljZgknhjfZlhjZ baf_gy_lky lhd b \ i_j\bqghc _]h h[fh

9. DZdh_ \ebygb_ hdZau\Z_l oZjZdl_j gZ]jma oZjZdl_jbklbdm ljZgknhjfZlhjZ"

10. lhq_fm k \hajZklZgb_f lhdZ gZ]jmadb \ ihdZaZl_eb ljZgknhjfZlhjZ \gZqZe_ gbaZZkkZ\l Z aZ

11. Qlh ijhbahc^_l k ljZgknhjfZlhjhf _keb \de ihklhyggh_ gZijy`_gb_"

12. DZdb_ nmgdpbb \uihegy_l fZ]gblhijh\h^ \ ljZ

13. lhq_fm fZ]gblhijh\h^ \uihegyxl ba n_jjhf fZl_jbZeZ Z g_ ba Zexfbgby beb ieZklfZkk"

14. lhq_fm fZ]gblhijh\h^ \uihegyxl ba we_dljh klZeb Z g_ ba h[uqghc dhgkljmdpbhgghc"

15. lhq_fm \ukhdhqZklhlgu_ ljZgknhjfZlhju f \uiheg_gu [_gblhZ]h\h^Z"

16. Qlh ijhbahc^_l k \dexq_gguf ljZgknhjfZlhjhf jZahfdgmlv fZ]gblhijh\h^"

17. >ey q_]h fZ]gblhijh\h^ kh[bjZxl ba bahebjh\Zgguo ieZklbg we_dljhl_ogbq_kdhc klZeb"

18. Q_f hij_^_ey_lky _ebqbgZ gZijy`_gby ljZgknhjfZlhjZ"

19. Qlh gm`gh baf_gblv \ ljZgknhjfZlhj_ qlh[u gZijy`_gb_ mf_gvrbehkv beb m_ebqbehkv \ jZaZ

20. DZd baf_gylky gZijy`_gby lhdb b fhsghk g_baf_gghc gZ]jmad_ mf_gvrblv qbkeh \bldh\ \lhjbq

21. DZd \aZbfhk\yaZgu lhdbb\hjbqgghcch[fhlhd"

22. Qlh ijhbahc^_l _keb ijb ih^dexq_gbb ljZ i_j_imlZlv i_j\bqqgmx b \lhjbqqgmx h[fhldb"

23. Qlh ijhbahc^_l _keb ljZgknhjfZlhj jZkkqblZ =p \dexqblv \ k_lv k qZklhlhc =p±\Zk_glZv qZk=lh"lm

24. lhq_fm ljZgknhjfZlhj ijh_dlbjmxl lZd qll gZijy`_gb_ \lhjbqghc h[fhldb \ j_`bf_ ;; gZ [hevr_ gZijy`_gby _]h gZ]jmadb"

25. DZd b ihq_fm baf_gy_lky gZijy`_gb_ gZ ih^dexq_gghf d ljZgknhjfZlhjm ijb baf_g_gbb khijhlb\gby "

26. lhq_fm ljZgknhjfZlhj g_`_eZl_evgh ^_j`Zlv \ k_lv \ j_`bf_ ;;"

27. DZdb_ ihl_jb fhsghklb b]^_ bf_xl f_klh \ ljZ dZd hgb aZ\bkyl hl _ebqbgu gZ]jmadb"

28. lhq_fm \ j_`bf_ ;; fZ]gblhijh\h^ ljZgknh gZ]j_\Z_lky Z h[fhldZ g_l"

29. lhq_fm \ hiul_ DA h[fhldZ ljZgknhjfZlhjZ g fZ]gblhijh\h^ g_l"

30. lhq_fm ljZgknhjfZlhju h[uqgh wdkiemZlb dhwnnbpb_gl_ gZ]jmadb

31. < q_f ij_bfms_kl\Z b g_^hklZldb Z\lhljZgk kjZ\g_gbb k ljZgknhjfZlhjZfb"

32. >ey dn_]ijbf_gyxlky b \ qzf hlebqb_ baf_j ljZgknhjfZlhjh\ hl h[uqguo ljZgknhjfZlhjh\"

K i b k h d b k i h e v a h \ Z g g u o b k l h q g b d h \

1. D Z k Z l d b g : K W e _ d l j h l _ o g b d Z m q _ [g _ w e _ d l j h l _ o g k i _ p b Z e v g h k l _ c \ m a h \ : K±11±D_Z k Z l d b a ^ k±l F j : d Z ^ _ f b y ± k

2. O _ j g _ j : \ : l h f h [b e v g Z y w e _ d l j b d Z b w e _ d l j h g b d O ¬ X J b e v i _ j _ \ h ^ k g _ f Q F I - i J _ B k k ª @ * ¶ 0 0 H H H © B a ^ Z l _ e v k l \ h © A Z j ± m e z f k ª

3. Wyatt, D. Aircraft Electrical and Electronic Systems / D. Wyatt, M. Tooley. ±Second Edition±NY, Routledge, 2018±439 p.

4. Bell, J.A. Modern Diesel Technology: Electricity & Electronics / J.A. Bell - Second Edition±NY, Delmar, 2014.±546 p.

Ijbeh`_gb_ :

(рекомендуемое)

;eZgdZ[hjZlhjghc jZ[hlu

BkiulZgb_ h^ghnZaagh]h ljZgknhjfZlhjZ

: P_ev jZ[hlu _____
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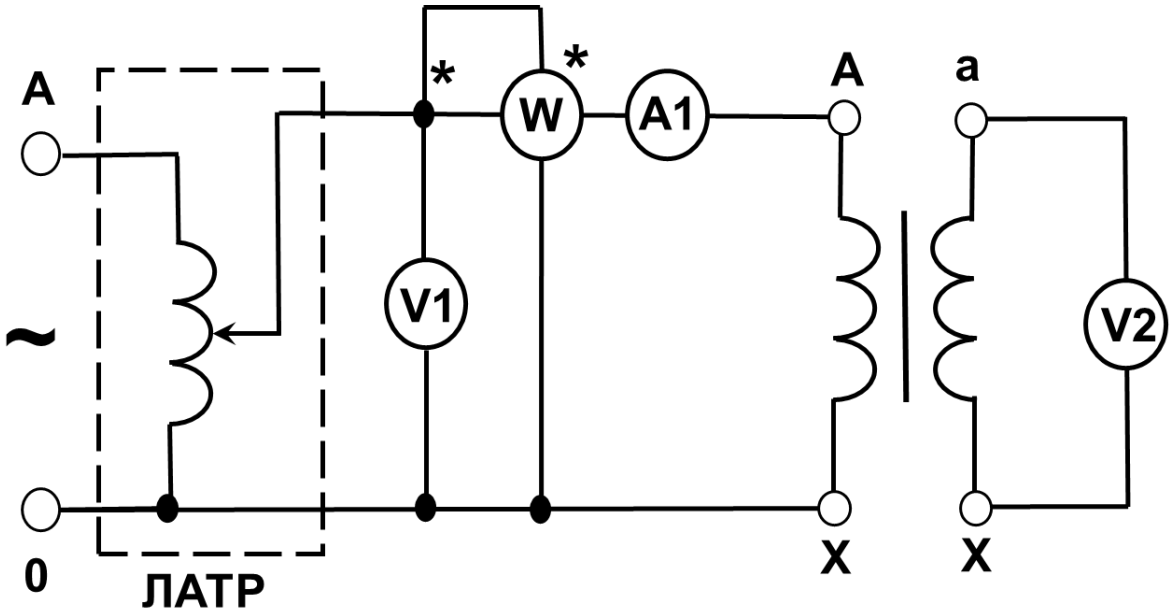
: Bkke_^h\Zgb_ jZ[hlu h^ghnZagh]h ljZgknhjfZ ohehklh]h oh^Z



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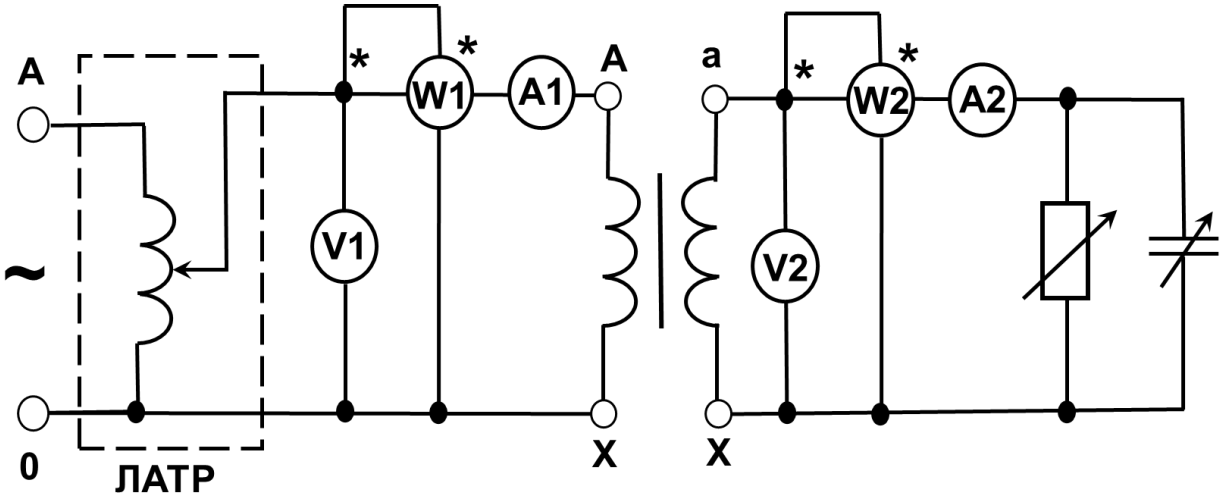
LZ[ebp1Z±lZjZf_lju ljZgknhjfZlhjZ \ j_`bf_ ohehkl

Baf_j_gh						<uqbke_gh		
I_2, A	U_2, B	P_2, <l	I_1, A	U_1, B	P_1, <l	F R_1V		F R_2V

: Bkke_^h\Zgb_ jZ[hlu h^ghnZagh]h ljZgknh gZ]jmadhc



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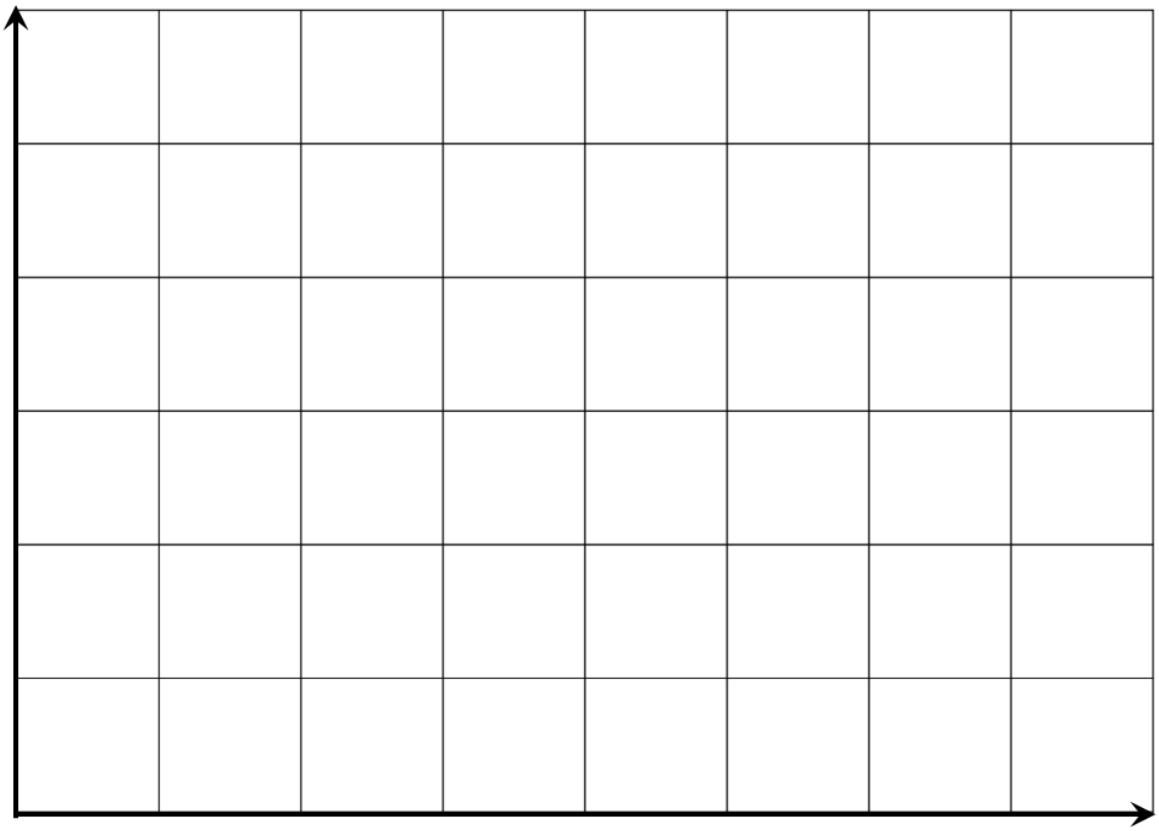
LZ[ebp2Z±lZjZf_lju ljZgknhjfZlhjZ \ j_`bf_ ih^ gZ]

	Baf_j_gh						<uqbke_gh		
	I_2, A	U_2, B	P_2, <l	I_1, A	U_1, B	P_1, <l	F R_1V		F R_2V
R1									
R2									
R3									
C1									
C2									
C3									

:.4 lhkljh_gb_ oZjZdl_jbklbd h^ghnZaghjh ljZgknl



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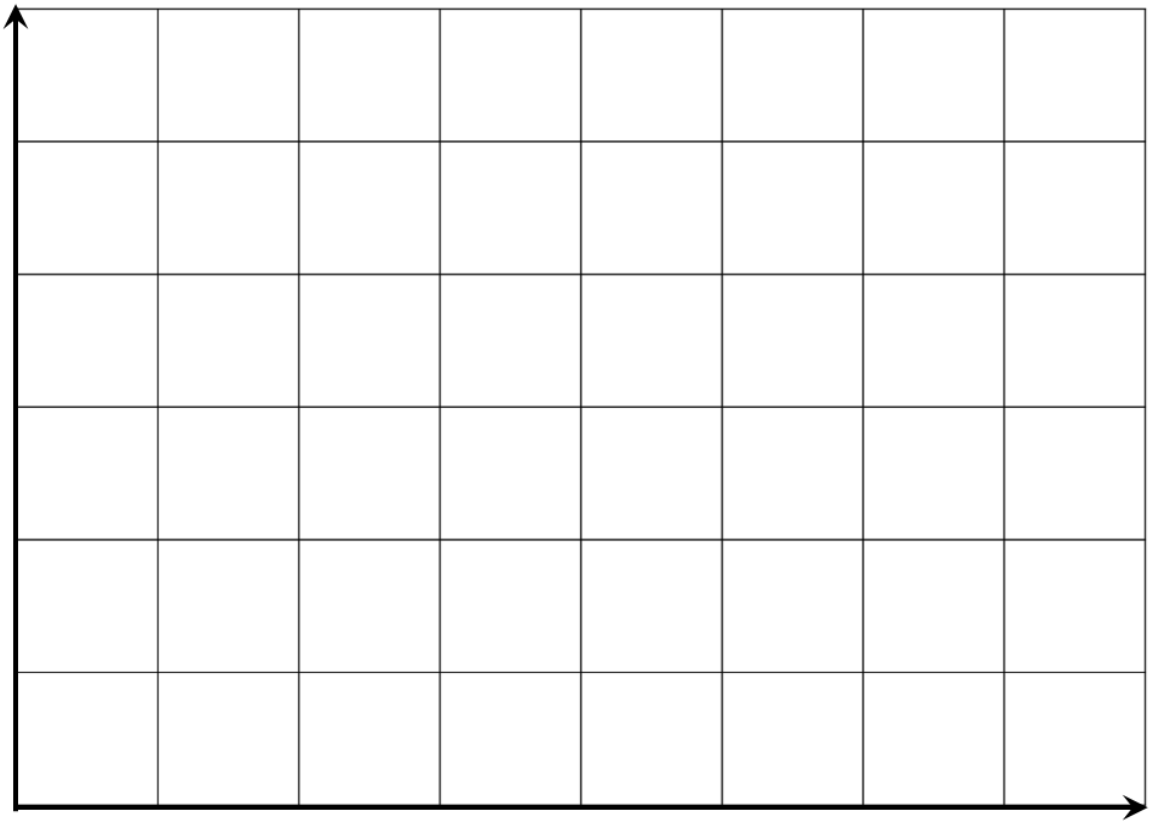

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: <u\h^u b ZgZeba ihemq_gguo j_amevlZlh\

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