

Mühendislik matematiği ödev 9

1)  $F(x,y)=\frac{(y-x)\mathbf{i}+(x-y)\mathbf{j}}{x^2+y^2}$  vektör alanının  $x=a, y=b$  noktasındaki vektör alanini cizin.

2)  $F(x,y)=y\mathbf{i}-x\mathbf{j}$ , vektör alanı veriliyor. Asagidaki tabloyu doldurun. Verilen noktalardaki vektör alanlarini cizin. Sekle bakarak  $F(x,y)$  vektör alanı  $x-y$  düzleminde nasıl bir şekil alır.

x	1	1	0	-1	-1	-1	0	1	2	2	0	-2	-2	-2	0	2
y	0	1	1	1	0	-1	-1	-1	0	2	2	2	0	-2	-2	-2
F(x,y)																

3)  $f(x,y,z) = x \sin(x^E y^G z^H)$  fonksiyonunun gradyanını hesaplayın

4)  $F=\sin(xyz+1)\mathbf{i}+\sin(xyz+2)\mathbf{j}+\sin(xyz+3)\mathbf{j}$ , ise  $\text{div } F$  hesaplayın.

5)  $F=Kx^2\mathbf{i}+Lxyz\mathbf{j}+Mz\mathbf{k}$  vektör alaninin  $r(t)=(2t+5)\mathbf{i}+t^2\mathbf{j}+(t^3+10t^2)\mathbf{k}$  yolu boyunca,  $t=0$  dan  $t=1$  e kadar integralini hesaplayın

6) C yolu  $r(t)=2t\mathbf{i}+Nt\mathbf{j}+5\mathbf{k}$  eğrisi boyunca  $t=0$  dan  $t=2$  ye kadar olan kısımdır.

$I=\int_C ydx + xdy + xyz$  integralini hesaplayın. (Not:  $x=2t, dx=2dt, y=Nt, dy=Ndt, z=5, dz=0$ )

7)  $F(x,y,z)=A x^d y^f z^g \mathbf{i} + B x^h y^j z^L \mathbf{j} + C x^M y^N z^U \mathbf{k}$  vektör alanı korumalıdır. (7.sorunun harf değerleri Tablo 2 de verlmistir.)

8)  $F(x,y,z)=A x^d y^f z^g \mathbf{i} + B x^h y^j z^L \mathbf{j} + C x^M y^N z^U \mathbf{k}$  vektör alanı korumalıdır. (7.sorunun harf değerleri Tablo 3 de verlmistir.)

Tablo 1) 1,2,3,4,5,6 sorular için harf değerleri

No	a	b	E	F	G	K	L	M	N
20110011002	3	7	5	4	6	7	5	8	7
20110011054	5	6	5	6	7	8	8	4	4
21110011013	8	6	3	6	5	7	4	4	8
21110011073	6	8	4	7	3	5	6	8	4
22110011010	4	7	7	4	5	6	7	5	6
22110011015	4	5	7	4	5	5	7	3	8
22110011020	7	4	5	6	7	4	4	5	7
22110011027	4	8	5	6	7	7	7	6	8
22110011031	6	7	6	5	4	5	7	4	6
22110011044	3	8	7	3	4	5	8	8	8
22110011046	5	3	5	4	3	8	8	5	5

22110011048	4	8	4	5	7	4	4	8	8
22110011050	4	7	5	4	7	8	7	6	7
22110011051	5	8	6	5	4	6	4	6	7
22110011303	5	3	5	7	4	5	7	8	5
22110011361	5	7	6	3	7	6	6	6	6
22110011363	6	5	4	6	7	5	7	4	8
22110011364	8	6	6	7	5	4	7	4	6
22110011369	6	4	3	7	6	6	5	6	3
23110011003	8	3	6	5	4	5	8	5	6
23110011006	8	7	6	4	5	5	5	4	8
23110011007	5	4	6	4	3	4	8	8	8
23110011014	5	7	7	6	5	7	7	7	3
23110011027	7	5	4	5	3	8	5	5	7
23110011030	3	4	5	4	3	8	5	3	7
23110011034	6	8	5	7	4	8	8	7	4
23110011035	5	7	3	6	7	4	3	6	6
23110011038	4	5	4	5	7	6	4	8	6
23110011039	4	8	5	6	4	6	5	5	8
23110011042	5	4	4	6	3	5	4	7	3
23110011045	8	4	3	6	7	4	8	4	6
23110011048	4	6	6	5	4	4	4	8	8
23110011304	7	5	4	7	6	8	5	4	6
23110011312	7	6	4	3	7	3	7	8	4
24110011002	8	4	6	5	4	4	4	4	4
24110011003	6	5	5	7	6	5	6	7	4
24110011004	8	6	4	3	6	6	8	7	7
24110011005	6	8	5	3	4	5	4	8	5
24110011006	8	6	3	5	7	8	7	7	5
24110011009	6	5	4	7	5	4	7	7	6
24110011010	7	4	6	5	7	3	7	5	7
24110011012	4	5	6	5	3	3	6	7	3
24110011014	8	4	3	4	7	4	3	8	4
24110011015	7	6	7	6	5	5	6	8	7
24110011016	4	6	5	4	3	3	3	7	5
24110011017	6	5	4	7	6	6	5	8	4
24110011019	4	7	6	3	7	6	8	6	7
24110011020	6	5	4	7	3	3	6	8	5
24110011021	5	7	6	5	4	3	4	5	7
24110011022	4	7	3	5	4	3	6	8	4
24110011025	6	8	4	7	3	7	8	6	8
24110011026	5	6	6	3	7	4	7	6	6
24110011309	7	4	4	5	6	6	5	6	7
24110011310	6	3	7	4	5	8	4	4	8
24110011506	6	8	5	7	4	8	5	8	7
24110011511	7	8	4	5	3	4	5	3	4
24110011512	7	8	6	4	5	4	4	8	4
24110011519	7	8	7	6	4	8	7	5	7
24110011520	6	4	5	4	7	7	6	6	7

24110011532	3	5	4	5	7	3	5	4	6
24110011533	8	6	3	5	7	4	7	5	3
24110011534	7	6	6	5	7	6	7	3	8
24110011535	4	7	3	5	4	3	6	8	4
25110011302	6	8	4	7	3	7	8	6	8
25110011303	5	6	6	3	7	4	7	6	6
25110011304	7	4	4	5	6	6	5	6	7
25110011306	6	3	7	4	5	8	4	4	8
25110011307	6	8	5	7	4	8	5	8	7
25110011309	7	8	4	5	3	4	5	3	4
25110011313	7	8	6	4	5	4	4	8	4
25110011314	7	8	7	6	4	8	7	5	7
25110011515	6	4	5	4	7	7	6	6	7

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Tablo 2) 7 soru için için harf degerleri												
No	A	d	f	g	B	h	j	L	C	M	N	U
9999	6	2	7	8	14	3	6	8	16	3	7	7
20110011002	48	3	8	5	21	4	6	5	15	4	7	4
20110011054	21	6	3	6	9	7	2	6	18	7	3	5
21110011013	18	5	7	3	63	7	6	3	9	6	7	2
21110011073	12	3	8	5	24	4	7	5	15	4	8	4
22110011010	16	7	7	6	56	8	7	6	12	8	7	5
22110011015	12	3	8	5	24	4	7	5	15	4	8	4
22110011020	48	8	4	5	8	8	3	5	10	8	4	4
22110011027	15	4	7	6	21	5	6	6	18	5	7	5
22110011031	24	7	5	6	15	8	4	6	36	8	5	6
22110011044	24	7	6	7	18	8	5	7	21	8	6	6
22110011046	21	6	5	6	15	7	4	6	36	7	5	6
22110011048	8	3	8	7	16	4	7	7	14	4	8	6
22110011050	28	6	8	7	16	7	7	6	12	7	8	5
22110011051	16	7	3	4	6	8	2	4	8	8	3	3
22110011303	10	4	8	3	16	5	7	3	18	6	8	2
22110011361	12	3	5	3	15	4	4	3	9	4	5	2
22110011363	21	6	6	4	18	7	5	4	24	7	6	4
22110011364	15	4	4	7	12	5	3	7	21	5	4	6
22110011369	15	4	4	6	48	5	4	6	18	5	4	5
23110011003	14	6	8	5	16	7	7	5	10	7	8	4
23110011006	10	4	7	4	42	6	6	4	8	5	7	3
23110011007	12	5	4	8	8	6	3	8	16	6	4	7
23110011014	21	6	8	3	24	7	7	3	27	8	8	2
23110011027	24	7	4	6	12	8	3	6	18	8	4	5
23110011030	8	3	7	5	14	4	6	5	20	4	7	5
23110011034	12	5	7	5	14	6	6	5	10	6	7	4
23110011035	8	3	7	6	56	4	7	6	12	4	7	5

23110011038	6	2	5	7	10	3	4	7	14	3	5	6
23110011039	15	4	3	7	36	5	3	7	21	5	3	6
23110011042	24	7	7	6	21	8	6	6	18	8	7	5
23110011045	10	4	6	4	48	5	6	4	8	5	6	3
23110011048	14	6	8	3	16	7	7	3	6	7	8	2
23110011304	18	5	7	5	84	6	7	5	15	6	7	4
23110011312	18	5	4	8	12	6	3	8	24	6	4	7
24110011002	8	3	7	3	42	5	6	3	6	4	7	2
24110011003	14	6	4	3	8	7	3	3	6	7	4	2
24110011004	32	3	9	6	16	4	7	6	12	4	8	5
24110011005	15	4	4	7	12	5	3	7	21	5	4	6
24110011006	54	6	5	8	15	6	4	8	24	6	5	7
24110011009	8	3	7	5	14	4	6	5	10	4	7	4
24110011010	6	2	7	8	42	4	6	8	16	3	7	7
24110011012	14	6	6	8	12	7	5	8	16	7	6	7
24110011014	10	4	3	6	6	5	2	6	24	5	3	6
24110011015	24	7	4	3	12	8	3	3	9	8	4	2
24110011016	15	4	6	7	72	5	6	7	21	5	6	6
24110011017	8	3	7	5	14	4	6	5	10	4	7	4
24110011019	48	8	4	5	8	8	3	5	10	8	4	4
24110011020	21	6	4	5	12	7	3	5	15	7	4	4
24110011021	18	5	3	7	9	6	2	7	42	6	3	7
24110011022	16	7	5	7	10	8	4	7	14	8	5	6
24110011025	16	7	3	7	6	8	2	7	56	8	4	6
24110011026	21	6	3	8	9	7	2	8	24	7	3	7
24110011309	8	3	8	6	16	4	7	6	36	5	8	5
24110011310	12	5	7	5	14	6	6	5	10	6	7	4
24110011506	12	3	5	8	45	5	4	8	24	4	5	7
24110011511	24	7	4	7	12	8	3	7	21	8	4	6
24110011512	18	5	3	8	9	6	2	8	72	7	3	7
24110011519	12	5	7	8	14	6	6	8	16	6	7	7
24110011520	48	7	4	8	12	8	3	7	21	8	4	6
24110011532	12	3	6	3	18	4	5	3	9	4	6	2
24110011533	96	7	8	3	21	8	6	3	9	8	7	2
24110011534	8	3	7	5	14	4	6	5	10	4	7	4
24110011535	48	8	4	5	8	8	3	5	10	8	4	4
25110011302	21	6	4	5	12	7	3	5	15	7	4	4
25110011303	18	5	3	7	9	6	2	7	42	6	3	7
25110011304	16	7	5	7	10	8	4	7	14	8	5	6
25110011306	16	7	3	7	6	8	2	7	56	8	4	6
25110011307	21	6	3	8	9	7	2	8	24	7	3	7
25110011309	8	3	8	6	16	4	7	6	36	5	8	5
25110011313	12	5	7	5	14	6	6	5	10	6	7	4
25110011314	12	3	5	8	45	5	4	8	24	4	5	7
25110011515	24	7	4	7	12	8	3	7	21	8	4	6

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Tablo 3) 8 soru için icin harf degerleri

No	A	d	f	g	B	h	j	L	C	M	N	U
9999	48	7	3	7	9	8	2	6	18	8	3	5
20110011002	8	3	6	8	12	4	5	8	16	4	6	7
20110011054	8	3	5	8	40	4	5	8	16	4	5	7
21110011013	12	5	5	8	10	6	4	8	16	6	5	7
21110011073	8	3	8	6	64	4	8	6	12	4	8	5
22110011010	9	2	7	6	21	3	6	6	18	3	7	5
22110011015	12	5	7	4	14	6	6	4	32	6	8	3
22110011020	24	7	6	3	18	8	5	3	9	8	6	2
22110011027	40	4	8	6	14	5	6	6	12	5	7	5
22110011031	8	3	6	5	12	4	5	5	10	4	6	4
22110011044	12	5	4	8	24	7	3	8	16	6	4	7
22110011046	8	3	7	8	14	4	6	8	16	4	7	7
22110011048	28	6	6	9	12	7	5	8	16	7	6	7
22110011050	15	4	3	4	9	5	2	4	12	5	3	3
22110011051	36	4	7	8	21	4	6	8	24	4	7	7
22110011303	21	6	5	6	15	7	4	6	18	7	5	5
22110011361	6	2	6	8	48	3	6	8	16	3	6	7
22110011363	15	4	4	8	12	5	3	8	24	5	4	7
22110011364	6	2	7	5	14	3	6	5	20	3	7	5
22110011369	16	7	7	3	14	8	6	3	6	8	7	2
23110011003	21	6	3	6	9	7	2	6	36	7	3	6
23110011006	12	5	4	8	8	6	3	8	16	6	4	7
23110011007	18	5	8	7	96	6	8	7	21	6	8	6
23110011014	12	5	8	5	16	6	7	5	10	6	8	4
23110011027	36	5	4	9	12	6	3	8	24	6	4	7
23110011030	14	6	3	4	6	7	2	4	8	7	3	3
23110011034	6	2	4	7	8	3	3	7	28	3	4	7
23110011035	14	6	6	3	12	7	5	3	6	7	6	2
23110011038	8	3	3	8	6	4	2	8	64	4	4	7
23110011039	9	2	7	6	21	3	6	6	18	3	7	5
23110011042	45	5	4	8	12	5	3	8	24	5	4	7
23110011045	12	5	8	5	16	6	7	5	10	6	8	4
23110011048	12	5	3	8	6	6	2	8	48	7	3	7
23110011304	12	5	3	4	6	6	2	4	8	6	3	3
23110011312	18	5	4	3	36	7	3	3	9	6	4	2
24110011002	12	3	6	5	18	4	5	5	15	4	6	4
24110011003	9	2	4	7	48	3	4	7	21	3	4	6
24110011004	8	3	7	6	14	4	6	6	12	4	7	5
24110011005	14	6	6	8	48	7	6	8	16	7	6	7
24110011006	9	2	4	7	12	3	3	7	21	3	4	6
24110011009	16	7	7	5	56	8	7	5	10	8	7	4
24110011010	10	4	4	8	8	5	3	8	16	5	4	7
24110011012	16	7	3	4	6	8	2	4	16	8	3	4
24110011014	12	3	3	8	9	4	2	8	24	4	3	7
24110011015	10	4	6	3	36	6	5	3	6	5	6	2
24110011016	16	7	4	3	8	8	3	3	6	8	4	2

24110011017	14	6	8	6	64	7	8	6	12	7	8	5
24110011019	8	3	7	3	14	4	6	3	6	4	7	2
24110011020	24	5	4	9	8	6	3	8	16	6	4	7
24110011021	16	7	7	6	14	8	6	6	12	8	7	5
24110011022	18	2	5	9	15	3	4	8	24	3	5	7
24110011025	21	6	8	4	24	7	7	4	12	7	8	3
24110011026	16	7	7	6	14	8	6	6	24	8	7	6
24110011309	16	7	4	7	8	8	3	7	14	8	4	6
24110011310	56	6	9	5	16	7	7	5	10	7	8	4
24110011506	12	5	3	7	6	6	2	7	14	6	3	6
24110011511	9	2	4	7	48	3	4	7	21	3	4	6
24110011512	24	7	7	5	21	8	6	5	15	8	7	4
24110011519	24	7	5	4	15	8	4	4	36	9	5	3
24110011520	21	6	6	5	18	7	5	5	15	7	6	4
24110011532	16	3	6	9	12	4	5	8	16	4	6	7
24110011533	14	6	3	5	6	7	2	5	10	7	3	4
24110011534	21	6	8	4	24	7	7	4	12	7	8	3
24110011535	16	7	7	6	14	8	6	6	24	8	7	6
25110011302	16	7	4	7	8	8	3	7	14	8	4	6
25110011303	56	6	9	5	16	7	7	5	10	7	8	4
25110011304	12	5	3	7	6	6	2	7	14	6	3	6
25110011306	9	2	4	7	48	3	4	7	21	3	4	6
25110011307	24	7	7	5	21	8	6	5	15	8	7	4
25110011309	24	7	5	4	15	8	4	4	36	9	5	3
25110011313	21	6	6	5	18	7	5	5	15	7	6	4
25110011314	16	3	6	9	12	4	5	8	16	4	6	7
25110011515	14	6	3	5	6	7	2	5	10	7	3	4