

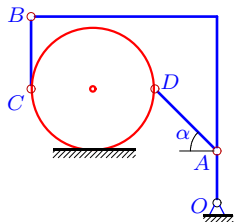
# Кинематический анализ плоского механизма

В указанном положении механизма задана угловая скорость одного из звеньев. Длины звеньев даны в сантиметрах. Стержни, направление которых не указано, считать горизонтальными или вертикальными. Диск катится по горизонтальной поверхности без проскальзывания. Найти угловые скорости всех звеньев механизма.

Кирсанов М.Н. **Решебник. Теоретическая механика**/Под ред. А. И. Кириллова.— М.: ФИЗМАТЛИТ, 2008. — 384 с. (с.158.)

## Задача К-26.1.

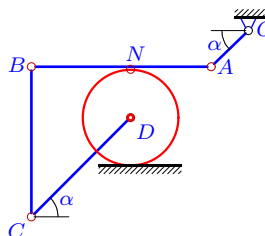
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$$\omega_{OA_z} = 252c^{-1}, R = 6, OA = 5, AD = 6\sqrt{2}, BC = 7, \alpha = 45^\circ.$$

## Задача К-26.2.

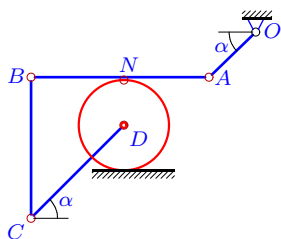
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$$\omega_{OA_z} = 104c^{-1}, R = 8, OA = 6\sqrt{2}, CD = 16\sqrt{2}, AN = 13, AB = 29, \alpha = 45^\circ.$$

## Задача К-26.3.

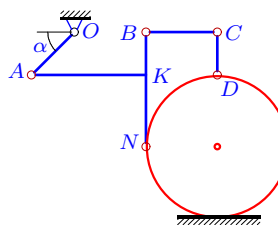
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$$\omega_{OA_z} = 66c^{-1}, R = 6, OA = 6\sqrt{2}, CD = 12\sqrt{2}, AN = 11, AB = 23, \alpha = 45^\circ.$$

## Задача К-26.4.

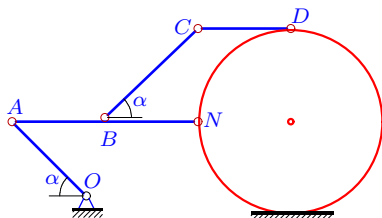
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$$\omega_{OA_z} = 15c^{-1}, R = 5, OA = 3\sqrt{2}, AK = 8, BK = 3, KN = 5, CD = 3, \alpha = 45^\circ.$$

## Задача К-26.5.

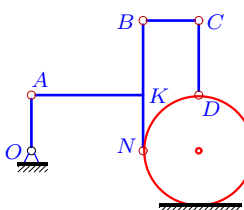
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$$\omega_{OA_z} = 5c^{-1}, R = 5, OA = 4\sqrt{2}, AB = 5, BN = 5, BC = 5\sqrt{2}, CD = 5, \alpha = 45^\circ$$

## Задача К-26.6.

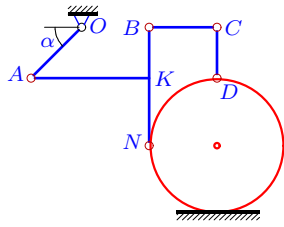
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$$\omega_{OA_z} = 4c^{-1}, R = 3, OA = 3, AK = 6, BK = 4, KN = 3, CD = 4.$$

Задача К-26.7.

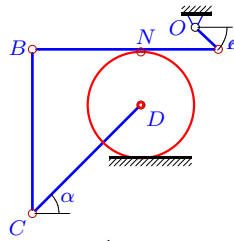
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$\omega_{OA_z} = 12c^{-1}$ ,  $R = 4$ ,  $OA = 3\sqrt{2}$ ,  
 $AK = 7$ ,  $BK = 3$ ,  $KN = 4$ ,  $CD = 3$ ,  $\alpha = 45^\circ$ .

Задача К-26.8.

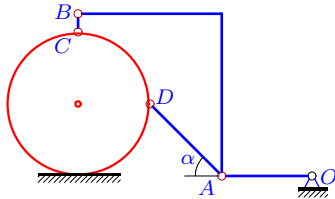
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$\omega_{OA_z} = 70c^{-1}$ ,  $R = 7$ ,  $OA = 3\sqrt{2}$ ,  
 $CD = 14\sqrt{2}$ ,  $AN = 10$ ,  $AB = 24$ ,  $\alpha = 45^\circ$ .

Задача К-26.9.

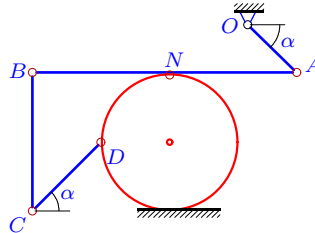
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$\omega_{OA_z} = 8c^{-1}$ ,  $R = 4$ ,  $OA = 5$ ,  
 $AD = 4\sqrt{2}$ ,  $BC = 1$ ,  $\alpha = 45^\circ$ .

Задача К-26.10.

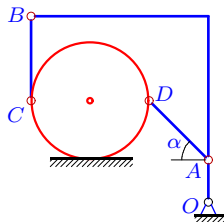
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$\omega_{OA_z} = 182c^{-1}$ ,  $R = 7$ ,  $OA = 5\sqrt{2}$ ,  
 $CD = 7\sqrt{2}$ ,  $AN = 13$ ,  $AB = 27$ ,  $\alpha = 45^\circ$ .

Задача К-26.11.

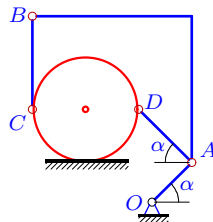
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$\omega_{OA_z} = 42c^{-1}$ ,  $R = 7$ ,  $OA = 5$ ,  
 $AD = 7\sqrt{2}$ ,  $BC = 10$ ,  $\alpha = 45^\circ$ .

Задача К-26.12.

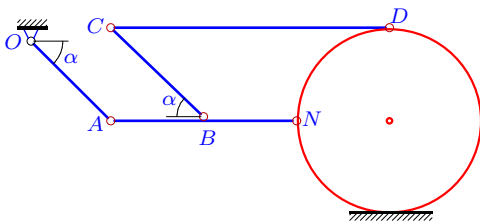
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$\omega_{OA_z} = 28c^{-1}$ ,  $R = 4$ ,  $OA = 3\sqrt{2}$ ,  
 $AD = 4\sqrt{2}$ ,  $BC = 7$ ,  $\alpha = 45^\circ$ .

Задача К-26.13.

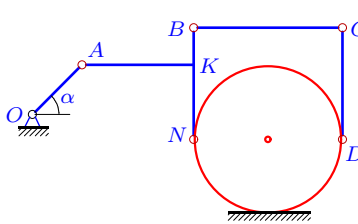
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$\omega_{OA_z} = 7c^{-1}$ ,  $R = 7$ ,  $OA = 6\sqrt{2}$ ,  
 $AB = 7$ ,  $BN = 7$ ,  $BC = 7\sqrt{2}$ ,  $CD = 21$ ,  $\alpha = 45^\circ$ .

Задача К-26.14.

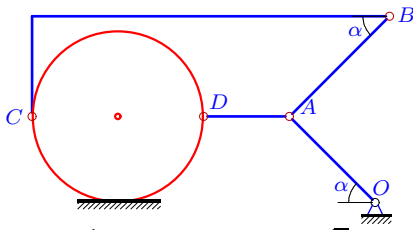
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$\omega_{OA_z} = 3c^{-1}$ ,  $R = 6$ ,  $OA = 4\sqrt{2}$ ,  
 $AK = 9$ ,  $BK = 3$ ,  $KN = 6$ ,  $CD = 9$ ,  $\alpha = 45^\circ$ .

Задача К-26.15.

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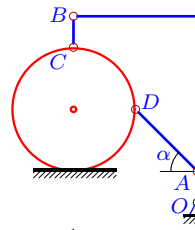


$$\omega_{OA_z} = 1c^{-1}, R = 6, OA = 6\sqrt{2},$$

$$AB = 7\sqrt{2}, AD = 6, \alpha = 45^\circ.$$

Задача К-26.16.

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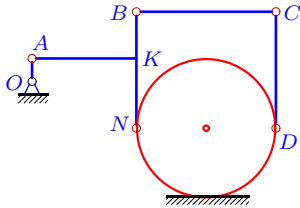


$$\omega_{OA_z} = 4c^{-1}, R = 6, OA = 3,$$

$$AD = 6\sqrt{2}, BC = 3, \alpha = 45^\circ.$$

Задача К-26.17.

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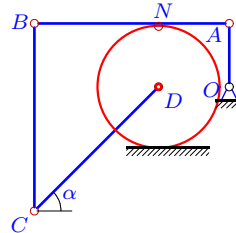


$$\omega_{OA_z} = 3c^{-1}, R = 6, OA = 2,$$

$$AK = 9, BK = 4, KN = 6, CD = 10.$$

Задача К-26.18.

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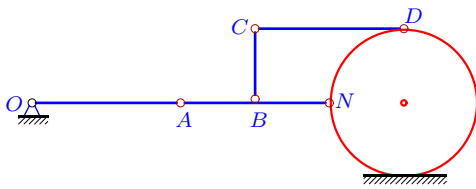


$$\omega_{OA_z} = 6c^{-1}, R = 7, OA = 7,$$

$$CD = 14\sqrt{2}, AN = 8, AB = 22, \alpha = 45^\circ.$$

Задача К-26.19.

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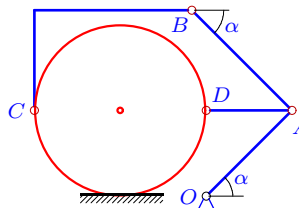


$$\omega_{OA_z} = 2c^{-1}, R = 4, OA = 8,$$

$$AB = 4, BN = BC = 4, CD = 8.$$

Задача К-26.20.

333

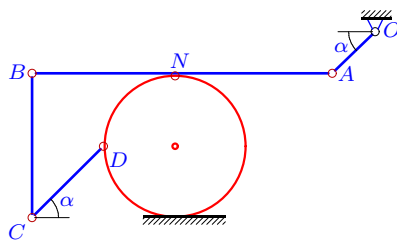


$$\omega_{OA_z} = 3c^{-1}, R = 6, OA = 6\sqrt{2},$$

$$AB = 7\sqrt{2}, AD = 6, \alpha = 45^\circ.$$

Задача К-26.21.

333

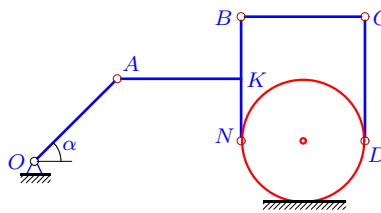


$$\omega_{OA_z} = 110c^{-1}, R = 5, OA = 3\sqrt{2},$$

$$CD = 5\sqrt{2}, AN = 11, AB = 21, \alpha = 45^\circ.$$

Задача К-26.22.

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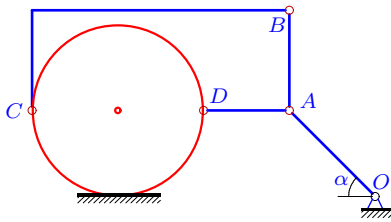


$$\omega_{OA_z} = 3c^{-1}, R = 3, OA = 4\sqrt{2},$$

$$AK = 6, BK = 3, KN = 3, CD = 6, \alpha = 45^\circ.$$

Задача К-26.23.

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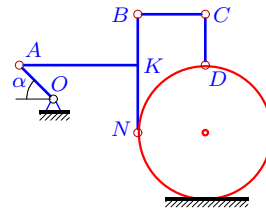


$$\omega_{OA_z} = 1c^{-1}, R = 6, OA = 6\sqrt{2},$$

$$AB = 7, AD = 6, \alpha = 45^\circ.$$

Задача К-26.24.

333

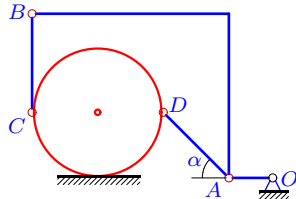


$$\omega_{OA_z} = 6c^{-1}, R = 4, OA = 2\sqrt{2},$$

$$AK = 7, BK = 3, KN = 4, CD = 3, \alpha = 45^\circ.$$

Задача К-26.25.

333

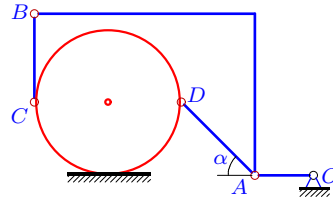


$$\omega_{OA_z} = 3c^{-1}, R = 6, OA = 4,$$

$$AD = 6\sqrt{2}, BC = 9, \alpha = 45^\circ.$$

Задача К-26.26.

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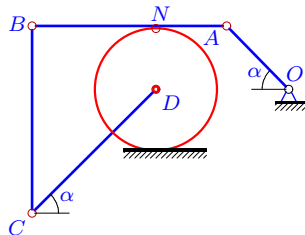


$$\omega_{OA_z} = 5c^{-1}, R = 5, OA = 4,$$

$$AD = 5\sqrt{2}, BC = 6, \alpha = 45^\circ.$$

Задача К-26.27.

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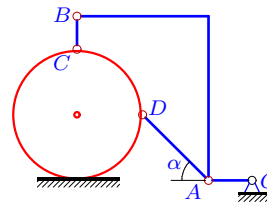


$$\omega_{OA_z} = 24c^{-1}, R = 7, OA = 7\sqrt{2},$$

$$CD = 14\sqrt{2}, AN = 8, AB = 22, \alpha = 45^\circ.$$

Задача К-26.28.

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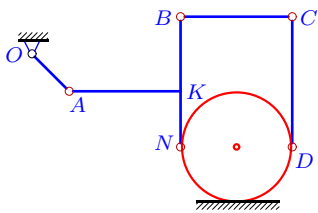


$$\omega_{OA_z} = 3c^{-1}, R = 6, OA = 4,$$

$$AD = 6\sqrt{2}, BC = 3, \alpha = 45^\circ.$$

Задача К-26.29.

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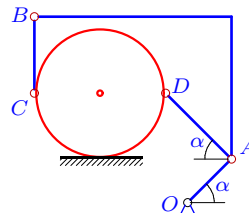


$$\omega_{OA_z} = 3c^{-1}, R = 3, OA = 2\sqrt{2},$$

$$AK = 6, BK = 4, KN = 3, CD = 7, \alpha = 45^\circ.$$

Задача К-26.30.

333

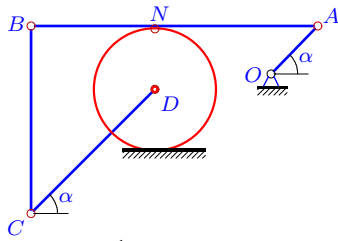


$$\omega_{OA_z} = 63c^{-1}, R = 6, OA = 4\sqrt{2},$$

$$AD = 6\sqrt{2}, BC = 7, \alpha = 45^\circ.$$

Задача К-26.31.

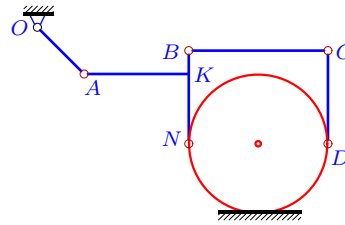
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$\omega_{OA_z} = 168c^{-1}$ ,  $R = 8$ ,  $OA = 6\sqrt{2}$ ,  
 $CD = 16\sqrt{2}$ ,  $AN = 21$ ,  $AB = 37$ ,  $\alpha = 45^\circ$ .

Задача К-26.32.

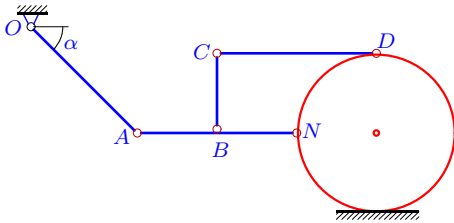
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$\omega_{OA_z} = 3c^{-1}$ ,  $R = 6$ ,  $OA = 4\sqrt{2}$ ,  
 $AK = 9$ ,  $BK = 2$ ,  $KN = 6$ ,  $CD = 8$ ,  $\alpha = 45^\circ$ .

Задача К-26.33.

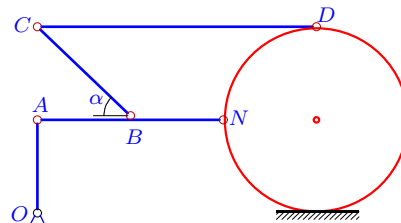
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$\omega_{OA_z} = 3c^{-1}$ ,  $R = 6$ ,  $OA = 8\sqrt{2}$ ,  
 $AB = 6$ ,  $BN = BC = 6$ ,  $CD = 12$ ,  $\alpha = 45^\circ$

Задача К-26.34.

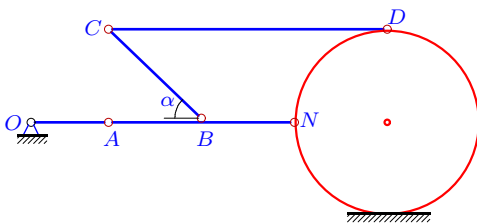
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$\omega_{OA_z} = 2c^{-1}$ ,  $R = 6$ ,  $OA = 6$ ,  
 $AB = 6$ ,  $BN = 6$ ,  $BC = 6\sqrt{2}$ ,  $CD = 18$ ,  $\alpha = 45^\circ$

Задача К-26.35.

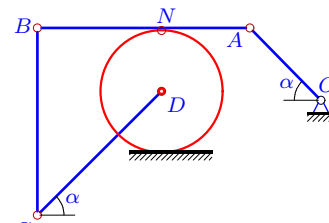
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$\omega_{OA_z} = 36c^{-1}$ ,  $R = 6$ ,  $OA = 5$ ,  
 $AB = 6$ ,  $BN = 6$ ,  $BC = 6\sqrt{2}$ ,  $CD = 18$ ,  $\alpha = 45^\circ$

Задача К-26.36.

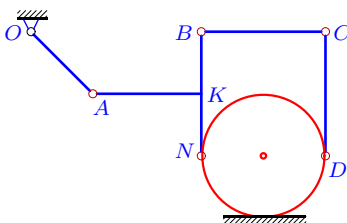
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$\omega_{OA_z} = 35c^{-1}$ ,  $R = 7$ ,  $OA = 8\sqrt{2}$ ,  
 $CD = 14\sqrt{2}$ ,  $AN = 10$ ,  $AB = 24$ ,  $\alpha = 45^\circ$ .

Задача К-26.37.

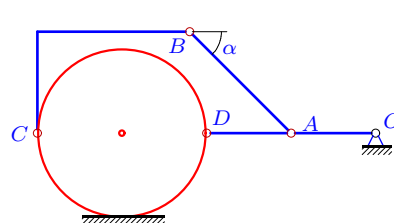
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$\omega_{OA_z} = 1c^{-1}$ ,  $R = 4$ ,  $OA = 4\sqrt{2}$ ,  
 $AK = 7$ ,  $BK = 4$ ,  $KN = 4$ ,  $CD = 8$ ,  $\alpha = 45^\circ$ .

Задача К-26.38.

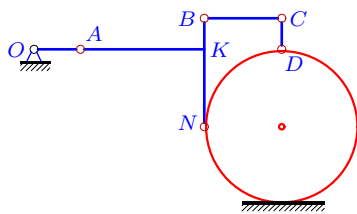
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$\omega_{OA_z} = 3c^{-1}$ ,  $R = 5$ ,  $OA = 5$ ,  
 $AB = 6\sqrt{2}$ ,  $AD = 5$ ,  $\alpha = 45^\circ$ .

Задача К-26.39.

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$\omega_{OA_z} = 1c^{-1}$ ,  $R = 5$ ,  $OA = 3$ ,  
 $AK = 8$ ,  $BK = 2$ ,  $KN = 5$ ,  $CD = 2$ .

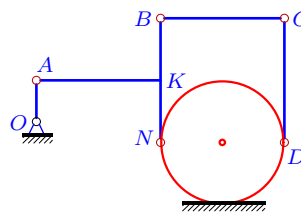
К-26

**Ответы.**

**Кинематический анализ плоского механизма**

Задача К-26.40.

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$\omega_{OA_z} = 3c^{-1}$ ,  $R = 3$ ,  $OA = 2$ ,  
 $AK = 6$ ,  $BK = 3$ ,  $KN = 3$ ,  $CD = 6$ .

13-Dec-17

№	$\omega_{AB_z}$	$\omega_{BC_z}$	$\omega_{CD_z}$	$\omega_{DA_z}$	$\omega_{\text{диск}_z}$
1	35	155	—	-105	105
2	-48	-45	-48	—	-39
3	-36	-35	-36	—	-33
4	30	-39	145	—	-39
5	0	4	0	—	4
6	-4	8	-13	—	8
7	24	-33	100	—	-33
8	21	9	21	—	-15
9	-5	-5	—	-5	-5
10	70	70	205	—	-65
11	5	19	—	-15	15
12	14	22	—	0	21
13	0	-6	-4	—	-6
14	-8	10	-8	—	10
15	0	0	—	-2	1
16	0	0	—	-1	1
17	-2	3	-2	—	3
18	0	1	0	—	3
19	-2	0	-1	—	0
20	2	2	—	0	3
21	-30	-30	-27	—	-33
22	-8	12	-8	—	12
23	0	0	—	-2	1
24	0	3	-4	—	3
25	-1	-1	—	-1	-1
26	-2	-2	—	-2	-2
27	-21	-10	-21	—	12
28	-1	-1	—	-1	-1
29	0	-2	0	—	-2
30	28	52	—	0	42
31	48	53	48	—	63
32	0	-2	0	—	-2
33	0	-4	-2	—	-4
34	-1	2	1	—	2
35	-15	0	-5	—	0
36	-28	-12	-28	—	20
37	0	-1	0	—	-1
38	-1	-1	—	-3	0
39	-1	1	-6	—	1
40	-2	4	-2	—	4

К-26 файл 26k333-AnsA