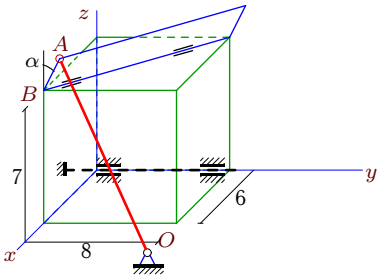
Шарнирный механизм с цилиндрическим шарниром

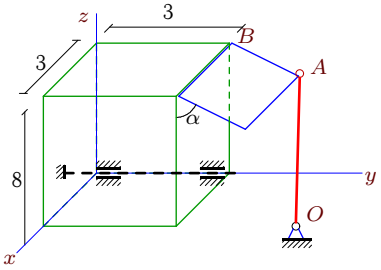
Прямоугольная пластина прикреплена цилиндрическим шарниром к параллелепипеду, вращающемуся с заданной угловой скоростью вокруг оси z или y, и к стержню OA со сферическими шарнирами по концам. Размеры и координаты опоры O даны в сантиметрах. Найти скорость шарнира A в заданном положении механизма.

Задача К-35.1. 5



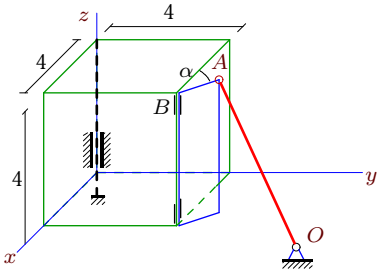
$\omega_y = 545$ с$^{-1}$, $AB = 5$, $\cos\alpha = 0.6$, $O(8, 8, 0)$.

Задача К-35.2. 5



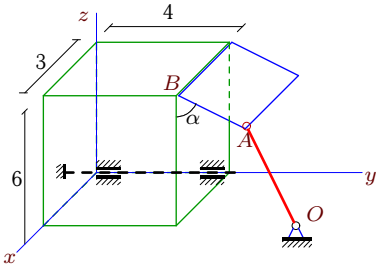
$\omega_y = 85$ с$^{-1}$, $AB = 3$, $\cos\alpha = 0.6$, $O(1, 8, 0)$.

Задача К-35.3. 5



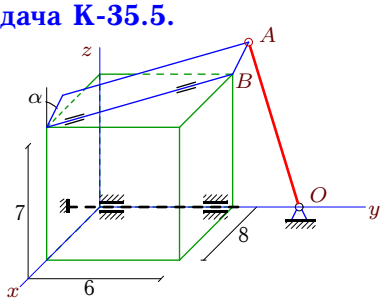
$\omega_z = -10$ с$^{-1}$, $AB = 2$, $\cos\alpha = 0.8$, $O(4, 8, 0)$.

Задача К-35.4. 5



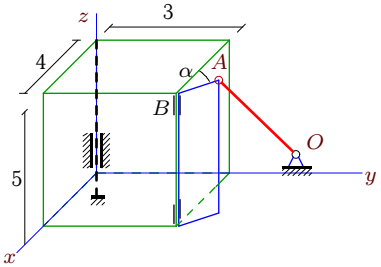
$\omega_y = 25$ с$^{-1}$, $AB = 3$, $\cos\alpha = 0.8$, $O(2, 6, 0)$.

Задача К-35.5. 5



$\omega_y = 235$ с$^{-1}$, $AB = 5$, $\cos\alpha = 0.6$, $O(0, 10, 0)$.

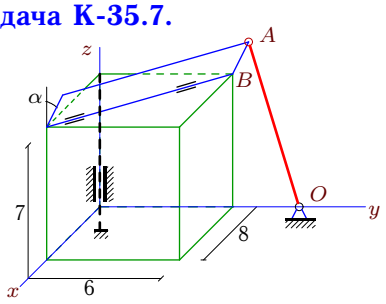
Задача К-35.6. 5



$\omega_z = 8$ с$^{-1}$, $AB = 2$, $\cos\alpha = 0.6$, $O(-1, 7, 0)$.

Задача К-35.7.

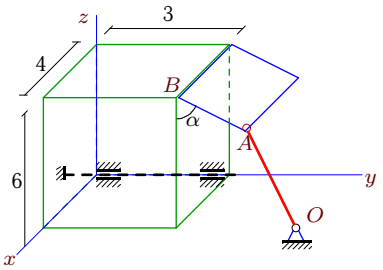
5



$\omega_z = 205$ с$^{-1}$, $AB = 3$, $\cos\alpha = 0.6$, $O(0, 8, 0)$.

Задача К-35.8.

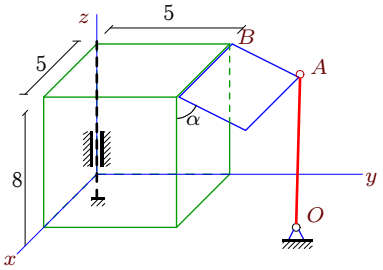
5



$\omega_y = 15$ с$^{-1}$, $AB = 2$, $\cos\alpha = 0.8$, $O(4, 6, 0)$.

Задача К-35.9.

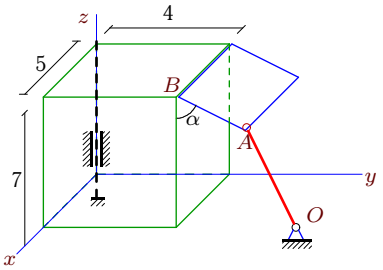
5



$\omega_z = 100$ с$^{-1}$, $AB = 3$, $\cos\alpha = 0.6$, $O(3, 9, 0)$.

Задача К-35.10.

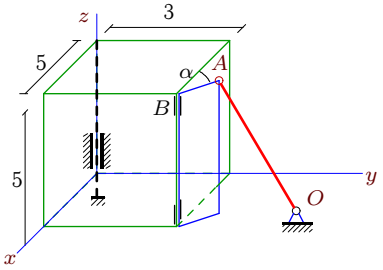
5



$\omega_z = 65$ с$^{-1}$, $AB = 2$, $\cos\alpha = 0.8$, $O(2, 6, 0)$.

Задача К-35.11.

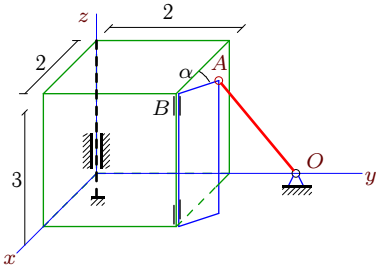
5



$\omega_z = -5$ с$^{-1}$, $AB = 2$, $\cos\alpha = 0.8$, $O(2, 6, 0)$.

Задача К-35.12.

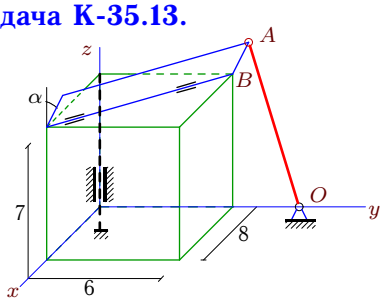
5



$\omega_z = -5$ с$^{-1}$, $AB = 2$, $\cos\alpha = 0.6$, $O(0, 6, 0)$.

Задача К-35.13.

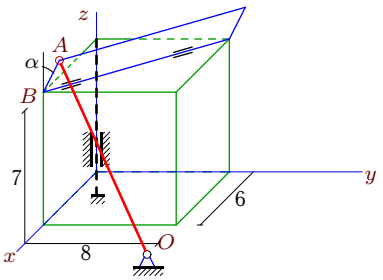
5



$\omega_z = 205$ с$^{-1}$, $AB = 4$, $\cos\alpha = 0.6$, $O(0, 8, 0)$.

Задача К-35.14.

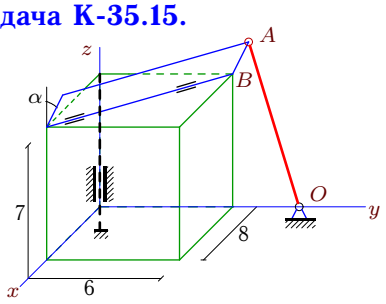
5



$\omega_z = 295$ с$^{-1}$, $AB = 5$, $\cos\alpha = 0.6$, $O(8, 8, 0)$.

Задача К-35.15.

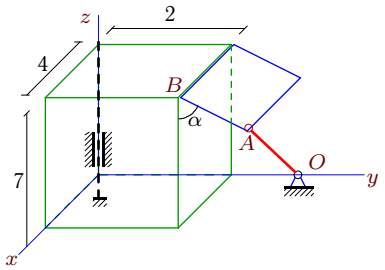
5



$\omega_z = 190$ с$^{-1}$, $AB = 3$, $\cos\alpha = 0.6$, $O(0, 7, 0)$.

Задача К-35.16.

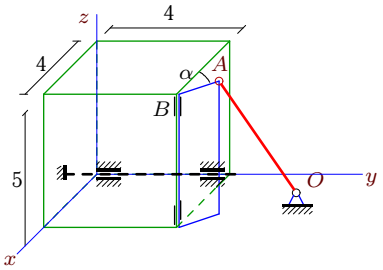
5



$\omega_z = 95$ с$^{-1}$, $AB = 2$, $\cos\alpha = 0.6$, $O(0, 5, 0)$.

Задача К-35.17.

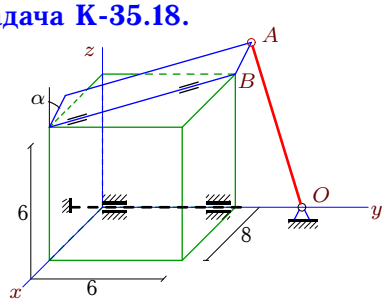
5



$\omega_y = 5$ с$^{-1}$, $AB = 2$, $\cos\alpha = 0.8$, $O(1, 6, 0)$.

Задача К-35.18.

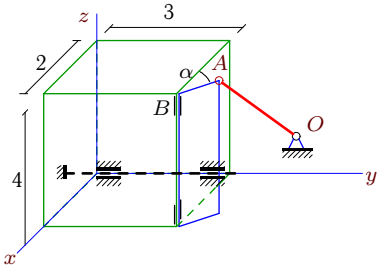
5



$\omega_y = 5$ с$^{-1}$, $AB = 5$, $\cos\alpha = 0.6$, $O(0, 11, 0)$.

Задача К-35.19.

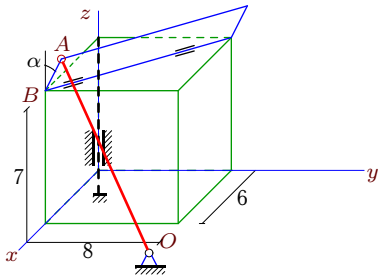
5



$\omega_y = 5$ с$^{-1}$, $AB = 3$, $\cos\alpha = 0.6$, $O(-2, 8, 0)$.

Задача К-35.20.

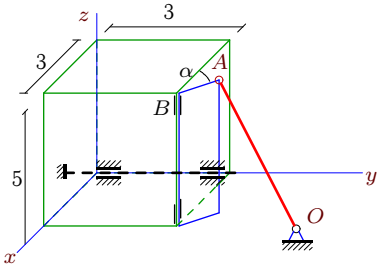
5



$\omega_z = 295$ с$^{-1}$, $AB = 5$, $\cos\alpha = 0.6$, $O(8, 8, 0)$.

Задача К-35.21.

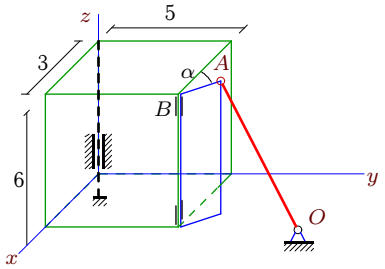
5



$\omega_y = -20$ с$^{-1}$, $AB = 2$, $\cos\alpha = 0.6$, $O(3, 7, 0)$.

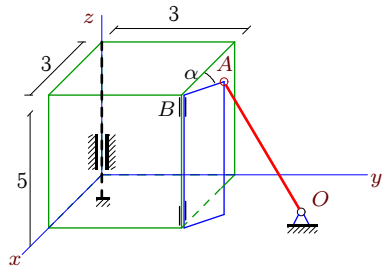
Задача К-35.22.

5



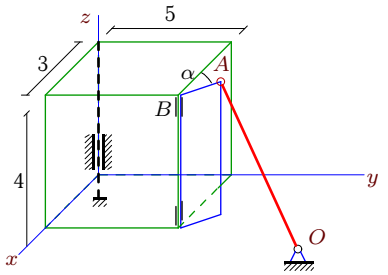
$\omega_z = -60$ с$^{-1}$, $AB = 2$, $\cos\alpha = 0.8$, $O(3, 8, 0)$.

Задача К-35.23. 5



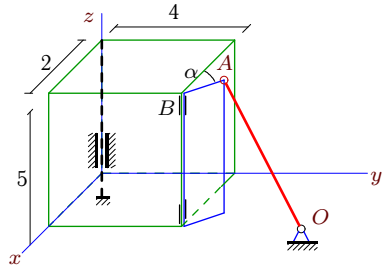
$\omega_z = -55$ с$^{-1}$, $AB = 2$, $\cos\alpha = 0.6$, $O(2, 8, 0)$.

Задача К-35.24. 5



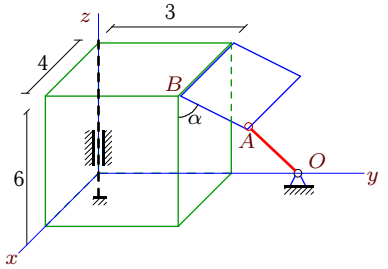
$\omega_z = -95$ с$^{-1}$, $AB = 3$, $\cos\alpha = 0.8$, $O(4, 9, 0)$.

Задача К-35.25. 5



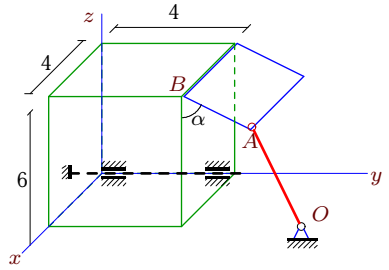
$\omega_z = -5$ с$^{-1}$, $AB = 2$, $\cos\alpha = 0.8$, $O(3, 6, 0)$.

Задача К-35.26. 5



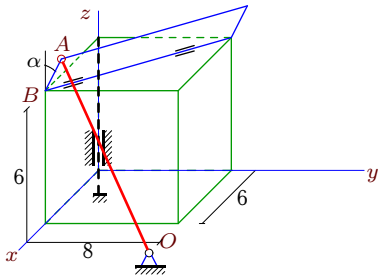
$\omega_z = 45$ с$^{-1}$, $AB = 2$, $\cos\alpha = 0.6$, $O(0, 5, 0)$.

Задача К-35.27. 5



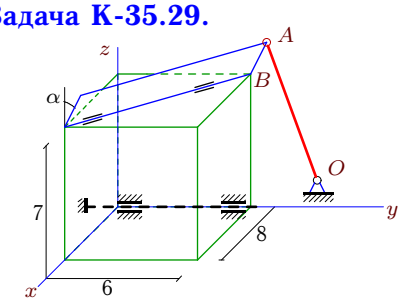
$\omega_y = 5$ с$^{-1}$, $AB = 3$, $\cos\alpha = 0.6$, $O(3, 9, 0)$.

Задача К-35.28. 5



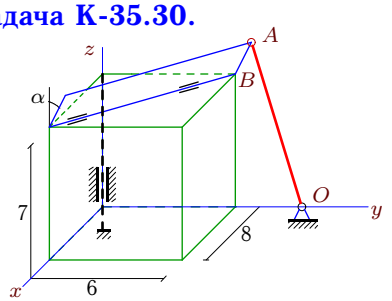
$\omega_z = 135$ с$^{-1}$, $AB = 5$, $\cos\alpha = 0.6$, $O(8, 8, 0)$.

Задача К-35.29. 5



$\omega_y = 835$ с$^{-1}$, $AB = 5$, $\cos\alpha = 0.6$, $O(-1, 9, 0)$.

Задача К-35.30. 5



$\omega_z = 235$ с$^{-1}$, $AB = 3$, $\cos\alpha = 0.6$, $O(0, 10, 0)$.

Ответы.

Шарнирный механизм с цилиндрическим шарниром 23.02.2014

№	v_{Ax}	v_{Ay}	v_{Az}
1	3050	-1800	-1014
2	527	93	-301
3	49	-28	0
4	90	72	-21
5	2350	0	-564
6	60	95	0
7	-2102	204	480
8	66	176	72
9	-740	607	276
10	-338	717	294
11	81	63	0
12	42	14	0
13	-2102	204	480
14	-1524	2102	1360
15	-1937	204	420
16	-342	680	400
17	100	100	-12
18	45	0	-12
19	-140	-120	-1
20	-1524	2102	1360
21	0	75	36
22	261	-232	0
23	357	-21	0
24	319	-493	0
25	8	-26	0
26	-207	330	200
27	21	21	8
28	-732	936	680
29	8800	600	-3004
30	-2432	204	600

K-35 файл o35k5A