

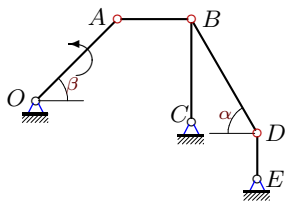
Уравнение трех угловых ускорений

Многозвенный механизм приводится в движение кривошипом OA или BC , вращающимся с известной угловой скоростью и известным угловым ускорением. Найти угловые скорости и угловые ускорения звеньев механизма. Длины звеньев даны в см, угловые скорости — в рад/с, угловые ускорения — в рад/с². Стержни, положение которых не определено углом, вертикальны или горизонтальны.

Кирсанов М.Н. Решебник. Теоретическая механика с. 183.

Вариант 1

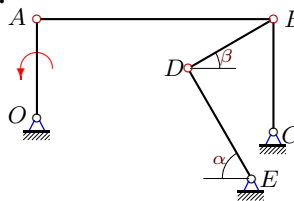
K19.



$\omega_{OA}=3, \epsilon_{OA}=4, \alpha=60^\circ, \beta=45^\circ,$
 $OA=28, AB=18, BC=25, BD=32,$
 $DE=11.$

Вариант 2

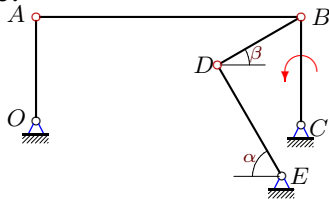
K19.



$\omega_{OA}=4, \epsilon_{OA}=4, \alpha=60^\circ, \beta=30^\circ,$
 $OA=28, AB=67, BC=32, BD=28,$
 $DE=36.$

Вариант 3

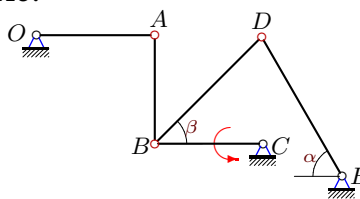
K19.



$\omega_{BC}=1, \epsilon_{BC}=3, \alpha=60^\circ, \beta=30^\circ,$
 $OA=26, AB=66, BC=27, BD=24,$
 $DE=32.$

Вариант 4

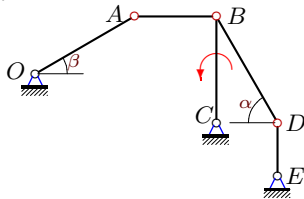
K19.



$\omega_{BC}=1, \epsilon_{BC}=4, \alpha=60^\circ, \beta=45^\circ,$
 $OA=36, AB=33, BC=33, BD=46,$
 $DE=49.$

Вариант 5

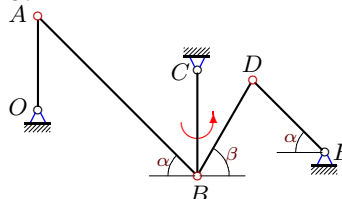
K19.



$\omega_{BC}=2, \epsilon_{BC}=4, \alpha=60^\circ, \beta=30^\circ,$
 $OA=28, AB=20, BC=26, BD=30,$
 $DE=13.$

Вариант 6

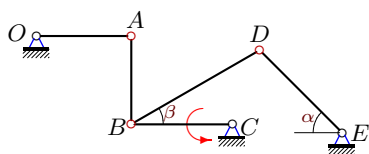
K19.



$\omega_{BC}=3, \epsilon_{BC}=1, \alpha=45^\circ, \beta=60^\circ,$
 $OA=22, AB=53, BC=25, BD=26,$
 $DE=24.$

Вариант 7

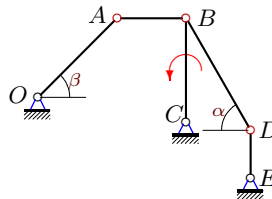
K19.



$\omega_{BC}=2, \epsilon_{BC}=1, \alpha=45^\circ, \beta=30^\circ,$
 $OA=30, AB=28, BC=32, BD=47,$
 $DE=37.$

Вариант 8

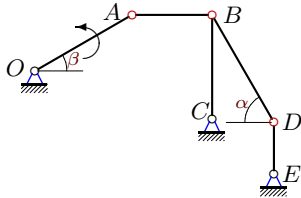
K19.



$\omega_{BC}=2, \epsilon_{BC}=3, \alpha=60^\circ, \beta=45^\circ,$
 $OA=26, AB=16, BC=24, BD=30,$
 $DE=11.$

Вариант 9

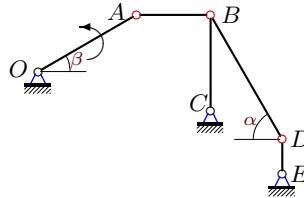
K19.



$\omega_{OA}=2, \varepsilon_{OA}=4, \alpha=60^\circ, \beta=30^\circ,$
 $OA=28, AB=20, BC=26, BD=31,$
 $DE=13.$

Вариант 10

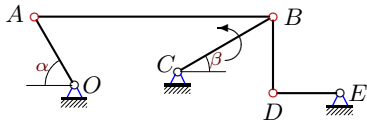
K19.



$\omega_{OA}=4, \varepsilon_{OA}=3, \alpha=60^\circ, \beta=30^\circ,$
 $OA=26, AB=17, BC=22, BD=33,$
 $DE=8.$

Вариант 11

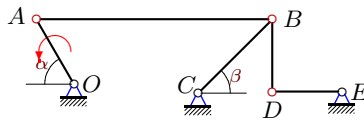
K19.



$\omega_{BC}=2, \varepsilon_{BC}=3, \alpha=60^\circ, \beta=30^\circ,$
 $OA=26, AB=78, BC=36, BD=25,$
 $DE=22.$

Вариант 12

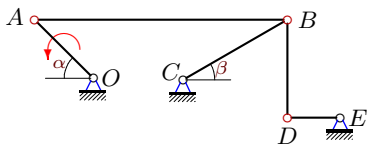
K19.



$\omega_{OA}=3, \varepsilon_{OA}=4, \alpha=60^\circ, \beta=45^\circ,$
 $OA=28, AB=88, BC=39, BD=27,$
 $DE=26.$

Вариант 13

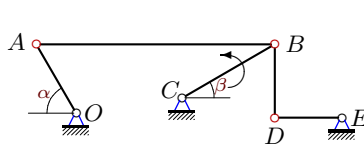
K19.



$\omega_{OA}=2, \varepsilon_{OA}=1, \alpha=45^\circ, \beta=30^\circ,$
 $OA=22, AB=67, BC=32, BD=26,$
 $DE=14.$

Вариант 14

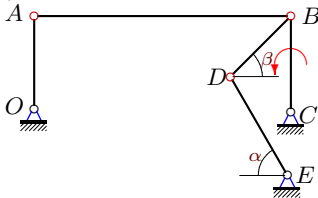
K19.



$\omega_{BC}=1, \varepsilon_{BC}=3, \alpha=60^\circ, \beta=30^\circ,$
 $OA=26, AB=78, BC=35, BD=24,$
 $DE=22.$

Вариант 15

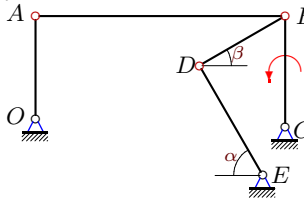
K19.



$\omega_{BC}=1, \varepsilon_{BC}=3, \alpha=60^\circ, \beta=45^\circ,$
 $OA=26, AB=72, BC=27, BD=24,$
 $DE=32.$

Вариант 16

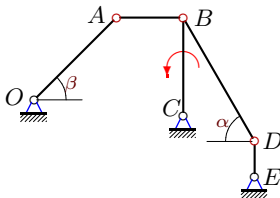
K19.



$\omega_{BC}=2, \varepsilon_{BC}=3, \alpha=60^\circ, \beta=30^\circ,$
 $OA=26, AB=63, BC=28, BD=25,$
 $DE=32.$

Вариант 17

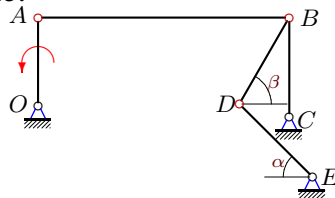
K19.



$\omega_{BC}=4, \varepsilon_{BC}=3, \alpha=60^\circ, \beta=45^\circ,$
 $OA=26, AB=15, BC=22, BD=32,$
 $DE=8.$

Вариант 18

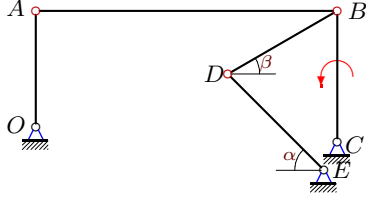
K19.



$\omega_{OA}=3, \varepsilon_{OA}=2, \alpha=45^\circ, \beta=60^\circ,$
 $OA=24, AB=68, BC=27, BD=27,$
 $DE=28.$

Вариант 19

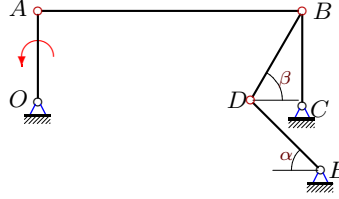
K19.



$\omega_{BC}=3, \varepsilon_{BC}=2, \alpha=45^\circ, \beta=30^\circ,$
 $OA=24, AB=62, BC=27, BD=26,$
 $DE=28.$

Вариант 20

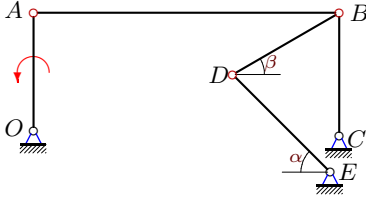
K19.



$\omega_{OA}=1, \varepsilon_{OA}=1, \alpha=45^\circ, \beta=60^\circ,$
 $OA=22, AB=64, BC=23, BD=25,$
 $DE=24.$

Вариант 21

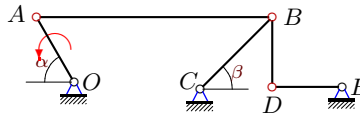
K19.



$\omega_{OA}=1, \varepsilon_{OA}=2, \alpha=45^\circ, \beta=30^\circ,$
 $OA=24, AB=62, BC=25, BD=25,$
 $DE=28.$

Вариант 22

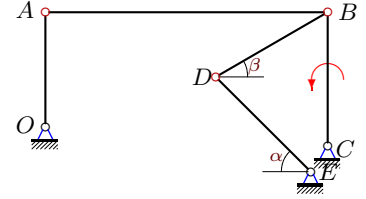
K19.



$\omega_{OA}=2, \varepsilon_{OA}=4, \alpha=60^\circ, \beta=45^\circ,$
 $OA=28, AB=88, BC=38, BD=26,$
 $DE=26.$

Вариант 23

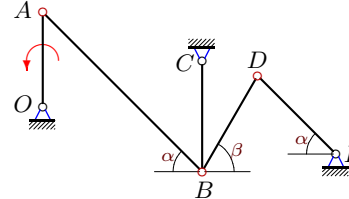
K19.



$\omega_{BC}=4, \varepsilon_{BC}=2, \alpha=45^\circ, \beta=30^\circ,$
 $OA=24, AB=59, BC=28, BD=27,$
 $DE=28.$

Вариант 24

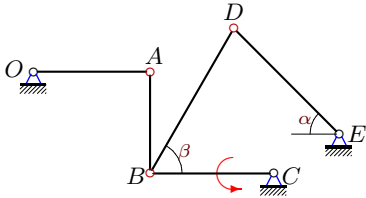
K19.



$\omega_{OA}=4, \varepsilon_{OA}=2, \alpha=45^\circ, \beta=60^\circ,$
 $OA=24, AB=57, BC=28, BD=28,$
 $DE=28.$

Вариант 25

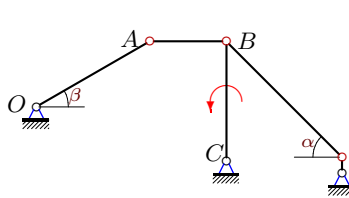
K19.



$\omega_{BC}=1, \varepsilon_{BC}=2, \alpha=45^\circ, \beta=60^\circ,$
 $OA=32, AB=28, BC=34, BD=46,$
 $DE=41.$

Вариант 26

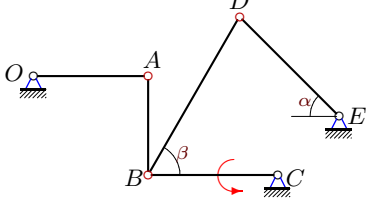
K19.



$\omega_{BC}=2, \varepsilon_{BC}=2, \alpha=45^\circ, \beta=30^\circ,$
 $OA=24, AB=14, BC=22, BD=30,$
 $DE=3.$

Вариант 27

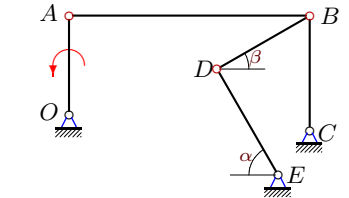
K19.



$\omega_{BC}=3, \varepsilon_{BC}=1, \alpha=45^\circ, \beta=60^\circ,$
 $OA=30, AB=26, BC=34, BD=48,$
 $DE=37.$

Вариант 28

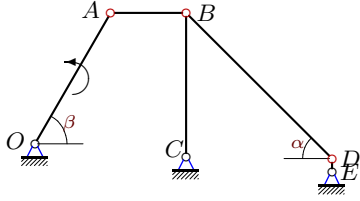
K19.



$\omega_{OA}=4, \varepsilon_{OA}=3, \alpha=60^\circ, \beta=30^\circ,$
 $OA=26, AB=63, BC=30, BD=28,$
 $DE=32.$

Вариант 29

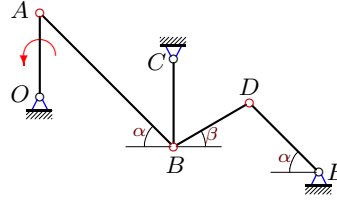
К19.



$\omega_{OA}=1, \varepsilon_{OA}=1, \alpha=45^\circ, \beta=60^\circ,$
 $OA=22, AB=11, BC=21, BD=30,$
 $DE=2.$

Вариант 30

К19.



$\omega_{OA}=1, \varepsilon_{OA}=2, \alpha=45^\circ, \beta=30^\circ,$
 $OA=24, AB=54, BC=25, BD=25,$
 $DE=28.$

Отвѣты

	ω_{OA}	ω_{AB}	ω_{BC}	ω_{BD}	ω_{DE}	ε_{OA}	ε_{AB}	ε_{BC}	ε_{BD}	ε_{DE}
1	3.000	-3.300	2.376	0.000	5.400	4.000	-2.340	18.135	-11.225	69.498
2	4.000	0.000	3.500	2.000	2.694	4.000	0.836	3.500	-0.791	5.028
3	1.038	0.000	1.000	0.563	0.731	3.115	0.016	3.000	1.425	2.377
4	-0.917	0.000	1.000	0.643	0.493	-3.667	1.917	4.000	2.787	1.816
5	3.714	-4.503	2.000	0.000	4.000	-45.438	59.548	4.000	-6.933	21.856
6	-3.409	0.000	3.000	2.112	-1.618	20.713	12.826	1.000	-6.937	-4.645
7	-2.133	0.000	2.000	0.997	0.895	-1.067	9.448	1.000	1.572	-1.132
8	2.611	-3.000	2.000	0.000	4.364	-10.733	14.165	3.000	-7.564	24.410
9	2.000	-2.425	1.077	-0.000	2.154	4.000	-3.557	10.407	-1.945	24.833
10	4.000	-5.298	2.364	0.000	6.500	3.000	1.032	39.838	-13.036	156.124
11	1.599	1.066	2.000	1.440	-2.834	5.477	1.927	3.000	14.217	-3.335
12	3.000	1.304	2.638	2.694	-2.798	4.000	0.126	-2.585	12.006	2.584
13	2.000	1.269	1.945	1.197	-3.849	1.000	-0.870	-2.726	10.331	7.058
14	0.777	0.518	1.000	0.729	-1.378	3.097	1.632	3.000	5.191	-3.918
15	1.038	0.000	1.000	0.582	0.618	3.115	0.014	3.000	1.356	2.105
16	2.154	0.000	2.000	1.120	1.516	3.231	0.137	3.000	0.740	3.043
17	4.787	-5.867	4.000	0.000	11.000	-47.403	62.714	3.000	-38.500	141.618
18	3.000	0.000	2.667	1.952	1.331	2.000	0.353	1.778	-0.981	2.756
19	3.375	0.000	3.000	2.281	2.594	2.250	0.490	2.000	0.785	3.024
20	1.000	0.000	0.957	0.644	0.475	1.000	0.015	0.957	0.363	0.753
21	1.000	0.000	0.960	0.703	0.768	2.000	0.015	1.920	1.283	1.665
22	2.000	0.869	1.805	1.865	-1.865	4.000	0.971	0.743	7.614	-0.880
23	4.667	0.000	4.000	3.037	3.586	2.333	1.266	2.000	0.709	4.316
24	4.000	0.000	-3.429	-2.510	1.775	2.000	17.694	23.755	7.212	-17.158
25	-1.063	0.000	1.000	0.541	0.744	-2.125	2.504	2.000	1.192	1.250
26	3.667	-5.444	2.000	0.000	14.667	-54.191	85.691	2.000	-26.273	200.444
27	-3.400	0.000	3.000	1.556	2.472	-1.133	25.108	1.000	0.959	-1.844
28	4.000	0.000	3.467	1.857	2.815	3.000	0.880	2.600	-0.705	4.726
29	1.000	-1.000	0.907	-0.000	9.526	1.000	-0.839	1.955	-7.741	102.633
30	1.000	0.000	-0.960	-0.703	0.768	2.000	1.232	-0.038	-1.520	0.220