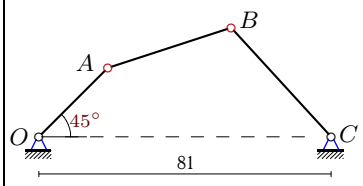
Уравнение трех угловых скоростей

Подобрать длины звеньев (в см) шарнирного четырехзвенника так, чтобы в некоторый момент движения угловые скорости его звеньев были бы равны заданным. Положение опорных шарниров четырехзвенника известно. Расстояния даны в см, угловые скорости — в рад/с.

Кирсанов М.Н. **Решебник. Теоретическая механика** с. 179.

Вариант 1

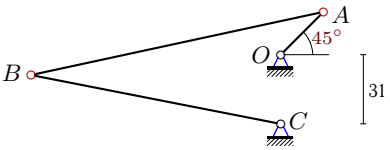
К18.



ω_{OA}=1, ω_{AB}= − 0.8, ω_{BC}=0.3, OA = 27.

Вариант 2

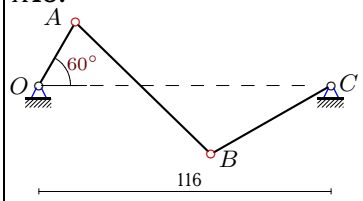
К18.



ω_{OA}=1, ω_{AB}=0.4, ω_{BC}=0.3, OA = 27.

Вариант 3

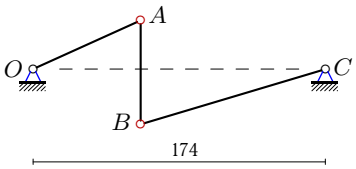
К18.



ω_{OA}= − 4, ω_{AB}= − 0.8, ω_{BC}=2, OA = 29.

Вариант 4

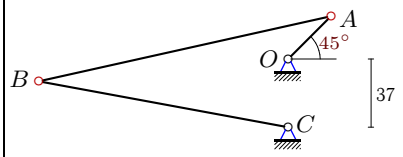
К18.



ω_{OA}=2, ω_{AB}=0.3, ω_{BC}= − 1.2, $AB \perp OC$, AB = 62.

Вариант 5

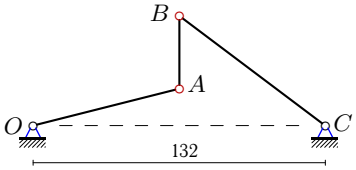
К18.



ω_{OA}=4, ω_{AB}=1.7, ω_{BC}=1.3, OA = 33.

Вариант 6

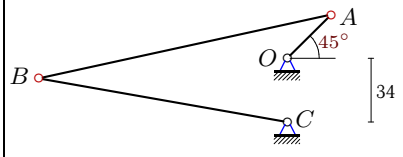
К18.



ω_{OA}=4, ω_{AB}= − 8, ω_{BC}= − 4, $AB \perp OC$, AB = 33.

Вариант 7

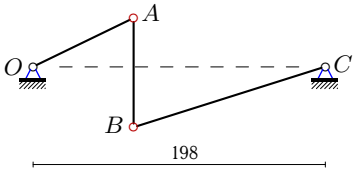
К18.



ω_{OA}=4, ω_{AB}=1.8, ω_{BC}=1.4, OA = 33.

Вариант 8

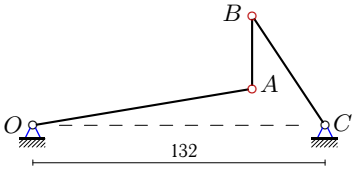
К18.



ω_{OA}=4, ω_{AB}=0.6, ω_{BC}= − 2, $AB \perp OC$, AB = 74.

Вариант 9

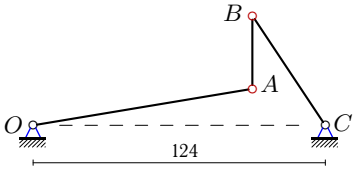
К18.



$\omega_{OA}=-1.3$, $\omega_{AB}=7$, $\omega_{BC}=4$,
$AB \perp OC$, $AB = 33$.

Вариант 10

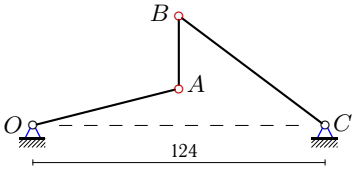
К18.



$\omega_{OA}=-1$, $\omega_{AB}=5$, $\omega_{BC}=3$,
$AB \perp OC$, $AB = 31$.

Вариант 11

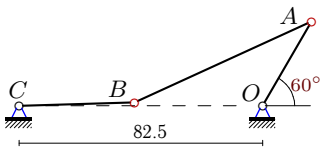
К18.



$\omega_{OA}=3$, $\omega_{AB}=-6$, $\omega_{BC}=-3$,
$AB \perp OC$, $AB = 31$.

Вариант 12

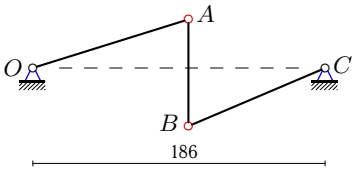
К18.



$\omega_{OA}=-3$, $\omega_{AB}=-3$, $\omega_{BC}=4$,
$OA = 33$.

Вариант 13

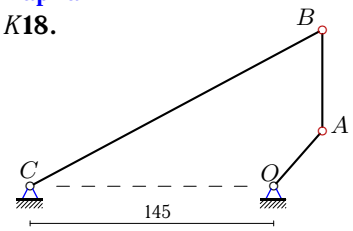
К18.



$\omega_{OA}=-3$, $\omega_{AB}=0.4$, $\omega_{BC}=3$,
$AB \perp OC$, $AB = 68$.

Вариант 14

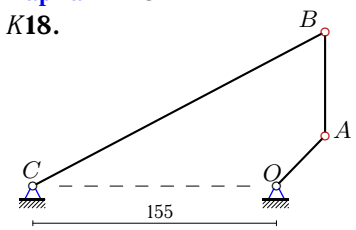
К18.



$\omega_{OA}=2$, $\omega_{AB}=-0.6$, $\omega_{BC}=0.3$,
$AB \perp OC$, $AB = 60$.

Вариант 15

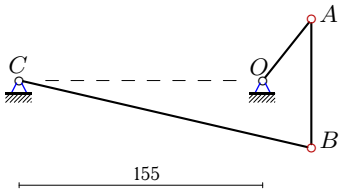
К18.



$\omega_{OA}=3$, $\omega_{AB}=-0.7$, $\omega_{BC}=0.5$,
$AB \perp OC$, $AB = 66$.

Вариант 16

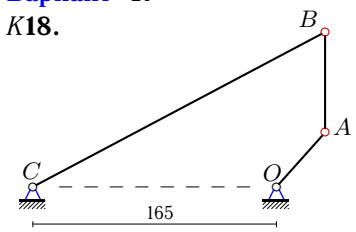
К18.



$\omega_{OA}=18$, $\omega_{AB}=10$, $\omega_{BC}=3$,
$AB \perp OC$, $AB = 82$.

Вариант 17

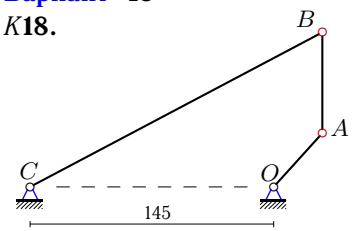
К18.



$\omega_{OA}=24$, $\omega_{AB}=-7$, $\omega_{BC}=4$,
$AB \perp OC$, $AB = 68$.

Вариант 18

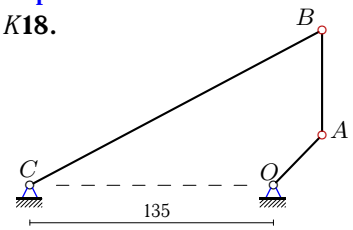
К18.



$\omega_{OA}=2$, $\omega_{AB}=-0.6$, $\omega_{BC}=0.3$,
$AB \perp OC$, $AB = 60$.

Вариант 19

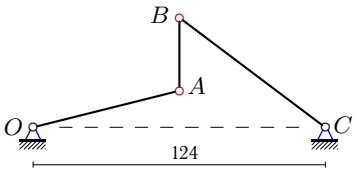
К18.



ω_{OA}=6, ω_{AB}= − 1.4, ω_{BC}=1,
$AB \perp OC$, $AB = 58$.

Вариант 20

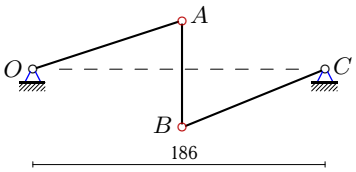
К18.



ω_{OA}=3, ω_{AB}= − 6, ω_{BC}= − 3,
$AB \perp OC$, $AB = 31$.

Вариант 21

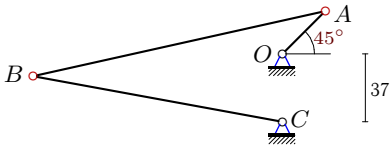
К18.



ω_{OA}= − 3, ω_{AB}=0.3, ω_{BC}=3,
$AB \perp OC$, $AB = 68$.

Вариант 22

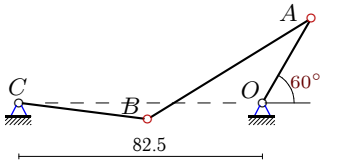
К18.



ω_{OA}=4, ω_{AB}=1.7, ω_{BC}=1.3,
$OA = 33$.

Вариант 23

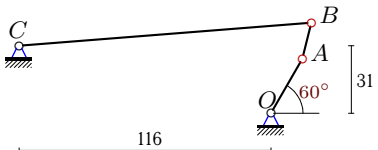
К18.



ω_{OA}= − 7, ω_{AB}= − 5, ω_{BC}=4,
$OA = 33$.

Вариант 24

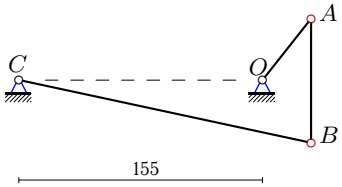
К18.



ω_{OA}=32, ω_{AB}= − 47, ω_{BC}=2,
$OA = 29$.

Вариант 25

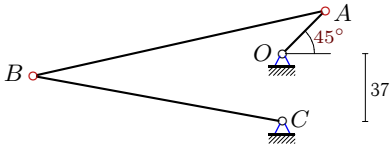
К18.



ω_{OA}=3, ω_{AB}=1.7, ω_{BC}=0.5,
$AB \perp OC$, $AB = 79$.

Вариант 26

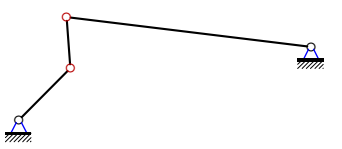
К18.



ω_{OA}=4, ω_{AB}=1.7, ω_{BC}=1.3,
$OA = 33$.

Вариант 27

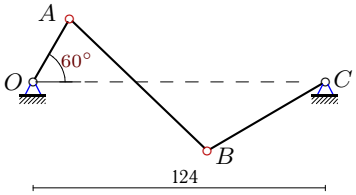
К18.



ω_{OA}=1, ω_{AB}= − 1.1, ω_{BC}= − 0.2,

Вариант 28

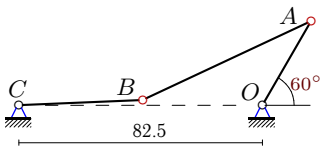
К18.



ω_{OA}= − 6, ω_{AB}= − 1.1, ω_{BC}=3,
$OA = 31$.

Вариант 29

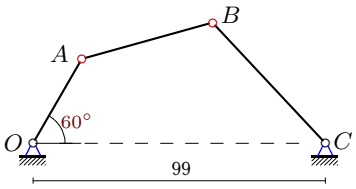
*K***18.**



$\omega_{OA}=-3$, $\omega_{AB}=-4$, $\omega_{BC}=4$,
$OA=33$.

Вариант 30

*K***18.**



$\omega_{OA}=9$, $\omega_{AB}=-7$, $\omega_{BC}=4$,
$OA=33$.

Ответы

	OA	AB	BC
1	27.000	36.332	41.732
2	27.000	139.687	114.940
3	29.000	74.686	57.405
4	71.430	62.000	113.629
5	33.000	161.855	136.144
6	68.031	33.000	82.500
7	33.000	155.154	130.688
8	73.378	74.000	138.501
9	101.359	33.000	60.984
10	94.283	31.000	55.886
11	63.908	31.000	77.500
12	33.000	69.765	35.357
13	97.557	68.000	100.667
14	40.789	60.000	193.704
15	44.324	66.000	210.089
16	49.248	82.000	191.072
17	49.877	68.000	224.306
18	40.789	60.000	193.704
19	38.782	58.000	183.337
20	63.908	31.000	77.500
21	97.905	68.000	100.239
22	33.000	161.855	136.144
23	33.000	66.709	42.642
24	29.000	17.150	135.072
25	48.979	79.000	190.482
26	33.000	161.855	136.144
27	27.000	19.000	91.000
28	31.000	81.784	60.926
29	33.000	61.044	43.460
30	33.000	45.398	57.000