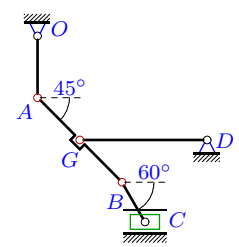
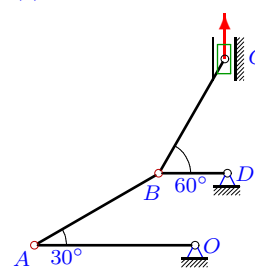
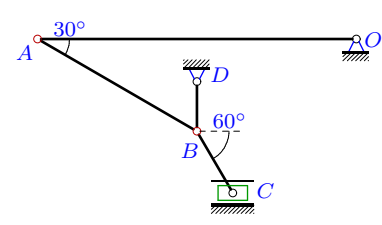
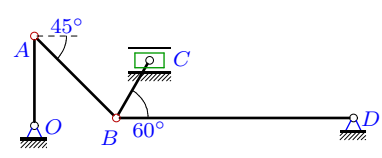
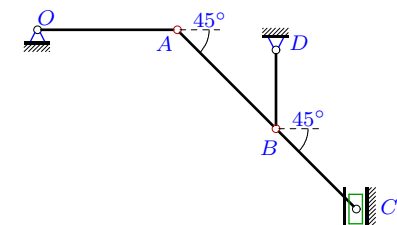
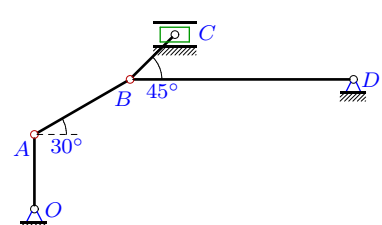
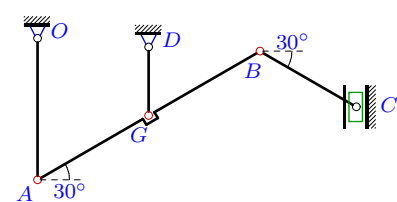
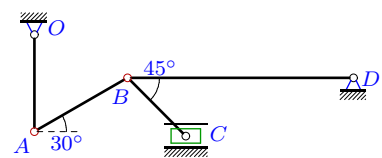
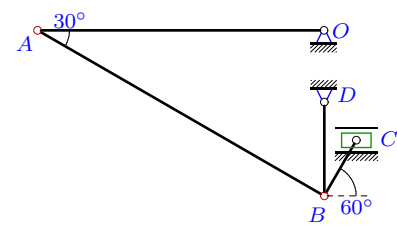
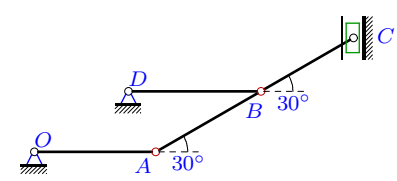


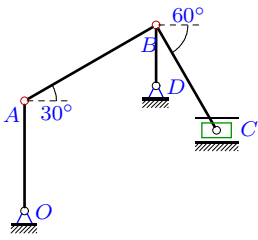
Кинематический анализ механизма (4звена)

Найти скорости и ускорения шарниров плоского механизма.

Кирсанов М.Н. **Решбник. Теоретическая механика**/Под ред. А. И. Кириллова.– М.:ФИЗМАТЛИТ, 2002.– 384 с. (с. 279.)

<p>Задача 7.1</p>  <p style="text-align: right;"> $\omega_{OA} = 27 \text{ рад/с,}$ $OA = 31 \text{ см,}$ $BG = 30 \text{ см,}$ $DG = 64 \text{ см,}$ $AG = 30 \text{ см,}$ $BC = 23 \text{ см.}$ </p>	<p>Задача 7.2</p>  <p style="text-align: right;"> $v_C = 140 \text{ см/с,}$ $OA = 28 \text{ см,}$ $DB = 12 \text{ см,}$ $AB = 25 \text{ см,}$ $BC = 23 \text{ см.}$ </p>
<p>Задача 7.3</p>  <p style="text-align: right;"> $\omega_{DB} = 16 \text{ рад/с,}$ $OA = 116 \text{ см,}$ $DB = 18 \text{ см,}$ $AB = 67 \text{ см,}$ $BC = 26 \text{ см.}$ </p>	<p>Задача 7.4</p>  <p style="text-align: right;"> $\omega_{DB} = 4 \text{ рад/с,}$ $OA = 31 \text{ см,}$ $DB = 82 \text{ см,}$ $AB = 40 \text{ см,}$ $BC = 23 \text{ см.}$ </p>
<p>Задача 7.5</p>  <p style="text-align: right;"> $\omega_{OA} = 5 \text{ рад/с,}$ $OA = 32 \text{ см,}$ $DB = 18 \text{ см,}$ $AB = 32 \text{ см,}$ $BC = 26 \text{ см.}$ </p>	<p>Задача 7.6</p>  <p style="text-align: right;"> $\omega_{DB} = 15 \text{ рад/с,}$ $OA = 27 \text{ см,}$ $DB = 81 \text{ см,}$ $AB = 40 \text{ см,}$ $BC = 23 \text{ см.}$ </p>
<p>Задача 7.7</p>  <p style="text-align: right;"> $\omega_{DG} = 10 \text{ рад/с,}$ $OA = 33 \text{ см,}$ $BG = 30 \text{ см,}$ $DG = 16 \text{ см,}$ $AG = 30 \text{ см,}$ $BC = 26 \text{ см.}$ </p>	<p>Задача 7.8</p>  <p style="text-align: right;"> $\omega_{OA} = 6 \text{ рад/с,}$ $OA = 27 \text{ см,}$ $DB = 63 \text{ см,}$ $AB = 30 \text{ см,}$ $BC = 23 \text{ см.}$ </p>
<p>Задача 7.9</p>  <p style="text-align: right;"> $\omega_{DB} = 30 \text{ рад/с,}$ $OA = 116 \text{ см,}$ $DB = 38 \text{ см,}$ $AB = 134 \text{ см,}$ $BC = 26 \text{ см.}$ </p>	<p>Задача 7.10</p>  <p style="text-align: right;"> $\omega_{OA} = 14 \text{ рад/с,}$ $OA = 33 \text{ см,}$ $DB = 36 \text{ см,}$ $AB = 33 \text{ см,}$ $BC = 29 \text{ см.}$ </p>

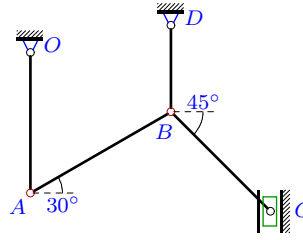
Задача 7.11



$\omega_{DB} = 2$ рад/с,
 $OA = 29$ см,
 $DB = 16$ см,
 $AB = 40$ см,
 $BC = 32$ см.

7.4

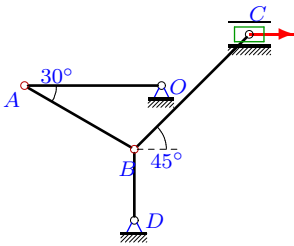
Задача 7.12



$\omega_{DB} = 6$ рад/с,
 $OA = 26$ см,
 $DB = 16$ см,
 $AB = 30$ см,
 $BC = 26$ см.

7.4

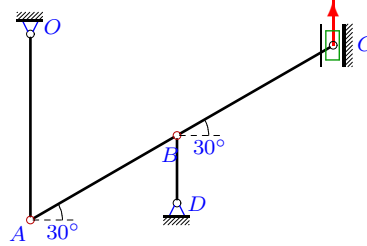
Задача 7.13



$v_C = 30$ см/с,
 $OA = 27$ см,
 $DB = 14$ см,
 $AB = 25$ см,
 $BC = 32$ см.

7.4

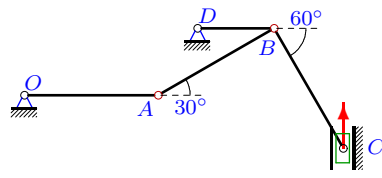
Задача 7.14



$v_C = 65$ см/с,
 $OA = 33$ см,
 $DB = 12$ см,
 $AB = 30$ см,
 $BC = 32$ см.

7.4

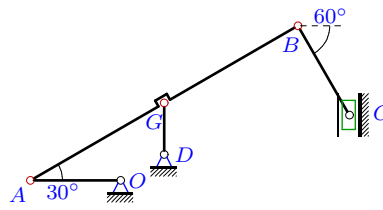
Задача 7.15



$v_C = 90$ см/с,
 $OA = 28$ см,
 $DB = 16$ см,
 $AB = 28$ см,
 $BC = 29$ см.

7.4

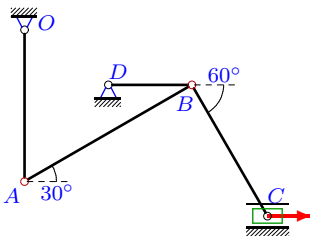
Задача 7.16



$\omega_{OA} = 12$ рад/с,
 $OA = 28$ см,
 $BG = 48$ см,
 $DG = 16$ см,
 $AG = 48$ см,
 $BC = 32$ см.

7.4

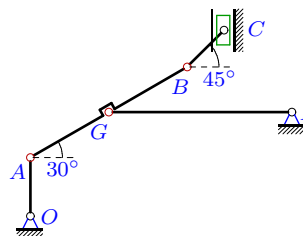
Задача 7.17



$v_C = 140$ см/с,
 $OA = 29$ см,
 $DB = 16$ см,
 $AB = 37$ см,
 $BC = 29$ см.

7.4

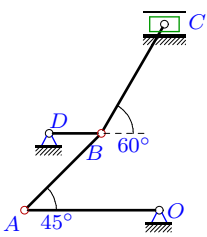
Задача 7.18



$\omega_{OA} = 1$ рад/с,
 $OA = 26$ см,
 $BG = 40$ см,
 $DG = 81$ см,
 $AG = 40$ см,
 $BC = 23$ см.

7.4

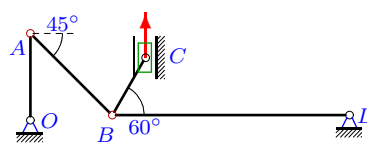
Задача 7.19



$\omega_{OA} = 15$ рад/с,
 $OA = 31$ см,
 $DB = 12$ см,
 $AB = 25$ см,
 $BC = 29$ см.

7.4

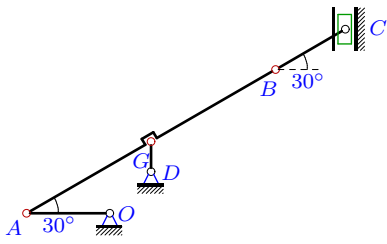
Задача 7.20



$v_C = 20$ см/с,
 $OA = 30$ см,
 $DB = 82$ см,
 $AB = 40$ см,
 $BC = 23$ см.

7.4

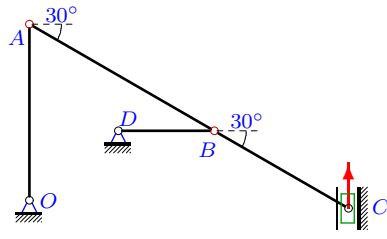
Задача 7.21



$\omega_{DG} = 5 \text{ рад/с,}$
 $OA = 33 \text{ см,}$
 $BG = 57 \text{ см,}$
 $DG = 12 \text{ см,}$
 $AG = 57 \text{ см,}$
 $BC = 32 \text{ см.}$

7.4

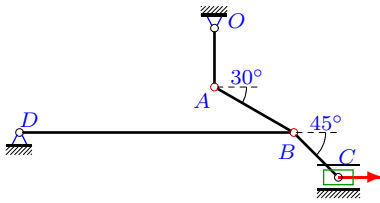
Задача 7.22



$v_C = 85 \text{ см/с,}$
 $OA = 33 \text{ см,}$
 $DB = 18 \text{ см,}$
 $AB = 40 \text{ см,}$
 $BC = 29 \text{ см.}$

7.4

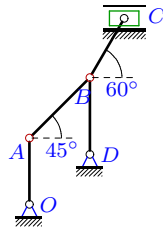
Задача 7.23



$v_C = 15 \text{ см/с,}$
 $OA = 27 \text{ см,}$
 $DB = 126 \text{ см,}$
 $AB = 42 \text{ см,}$
 $BC = 29 \text{ см.}$

7.4

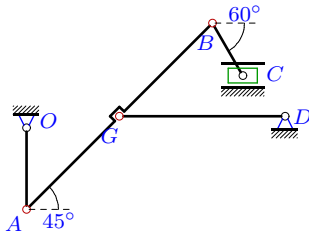
Задача 7.24



$\omega_{OA} = 6 \text{ рад/с,}$
 $OA = 31 \text{ см,}$
 $DB = 36 \text{ см,}$
 $AB = 40 \text{ см,}$
 $BC = 32 \text{ см.}$

7.4

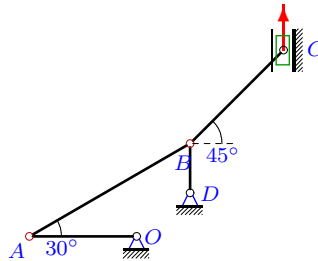
Задача 7.25



$\omega_{DG} = 21 \text{ рад/с,}$
 $OA = 31 \text{ см,}$
 $BG = 50 \text{ см,}$
 $DG = 63 \text{ см,}$
 $AG = 50 \text{ см,}$
 $BC = 23 \text{ см.}$

7.4

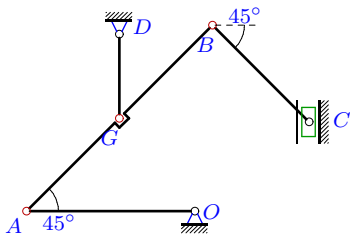
Задача 7.26



$v_C = 45 \text{ см/с,}$
 $OA = 26 \text{ см,}$
 $DB = 12 \text{ см,}$
 $AB = 45 \text{ см,}$
 $BC = 32 \text{ см.}$

7.4

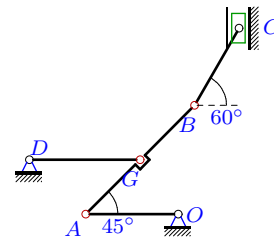
Задача 7.27



$\omega_{OA} = 13 \text{ рад/с,}$
 $OA = 32 \text{ см,}$
 $BG = 25 \text{ см,}$
 $DG = 16 \text{ см,}$
 $AG = 25 \text{ см,}$
 $BC = 26 \text{ см.}$

7.4

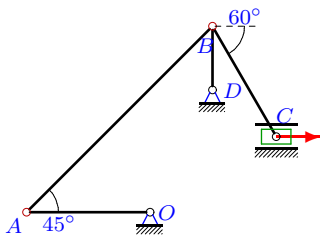
Задача 7.28



$\omega_{DG} = 16 \text{ рад/с,}$
 $OA = 30 \text{ см,}$
 $BG = 25 \text{ см,}$
 $DG = 36 \text{ см,}$
 $AG = 25 \text{ см,}$
 $BC = 29 \text{ см.}$

7.4

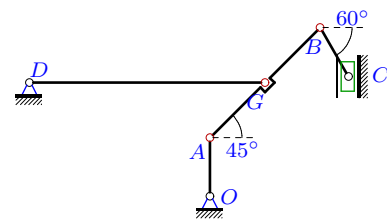
Задача 7.29



$v_C = 135 \text{ см/с,}$
 $OA = 31 \text{ см,}$
 $DB = 16 \text{ см,}$
 $AB = 66 \text{ см,}$
 $BC = 32 \text{ см.}$

7.4

Задача 7.30



$\omega_{DG} = 6 \text{ рад/с,}$
 $OA = 30 \text{ см,}$
 $BG = 40 \text{ см,}$
 $DG = 121 \text{ см,}$
 $AG = 40 \text{ см,}$
 $BC = 29 \text{ см.}$

7.4

Кинематический анализ механизма (4звена)

n	v_A	v_B	v_C	v_G	a_A	a_B	a_C	a_G
1	8.370	18.716	20.625	8.370	225.990	1779.442	12586.788	1001.954
2	1.400	1.400	1.400	–	9.714	18.860	0.000	–
3	4.988	2.880	2.880	–	26.644	46.080	79.813	–
4	3.280	3.280	5.681	–	64.602	13.120	361.085	–
5	1.600	1.600	1.600	–	8.000	21.712	58.477	–
6	7.015	12.150	12.150	–	874.865	182.250	1633.139	–
7	1.600	1.600	2.771	1.600	9.101	24.705	111.254	16.000
8	1.620	2.806	2.806	–	9.720	82.858	2.414	–
9	19.745	11.400	11.400	–	367.354	342.000	592.361	–
10	4.620	4.620	4.620	–	64.680	60.020	112.029	–
11	0.320	0.320	0.320	–	0.390	0.640	1.109	–
12	0.960	0.960	0.960	–	3.768	5.760	15.786	–
13	0.520	0.300	0.300	–	3.072	0.909	0.000	–
14	0.375	0.375	0.650	–	1.837	2.954	0.000	–
15	0.900	0.900	0.900	–	7.280	5.846	0.000	–
16	3.360	5.132	5.600	1.940	40.320	47.299	28.237	29.429
17	0.467	0.808	1.400	–	9.198	13.400	0.000	–
18	0.260	0.937	0.641	0.450	0.260	3.864	4.162	2.061
19	4.650	4.650	8.054	–	69.750	308.117	343.766	–
20	0.200	0.200	0.200	–	0.263	0.056	0.000	–
21	1.039	1.587	1.039	0.600	4.877	4.049	44.053	3.000
22	0.491	0.850	0.850	–	2.470	8.028	0.000	–
23	0.087	0.150	0.150	–	0.219	0.238	0.000	–
24	1.860	1.860	1.860	–	11.160	9.734	18.195	–
25	13.230	29.583	59.060	13.230	901.937	583.617	23522.132	277.830
26	0.779	0.450	0.450	–	4.536	3.865	0.000	–
27	4.160	9.302	12.480	4.160	54.080	594.569	1523.181	272.275
28	5.760	5.760	5.760	5.760	230.952	357.885	32.484	92.160
29	1.350	1.350	1.350	–	29.775	22.781	0.000	–
30	7.260	16.234	18.712	7.260	534.530	617.474	797.278	43.560

№	ω_{OA}	ω_{DB}	ω_{DG}	ω_{AB}	ω_{BC}	ε_{AB}	ε_{BC}
1	27.000	-	13.078	-39.457	145.565	2072.838	-52056.683
2	-5.000	-11.667	-	0.000	0.000	-74.667	82.000
3	4.300	16.000	-	8.597	0.000	63.981	-354.462
4	-10.581	4.000	-	-11.597	28.522	-11.781	1409.005
5	5.000	-8.889	-	-7.071	8.703	12.854	164.972
6	25.981	15.000	-	-35.074	74.707	1236.360	5581.191
7	4.848	-	10.000	0.000	-12.308	31.725	298.976
8	6.000	-4.454	-	10.800	-17.253	-285.341	205.979
9	17.022	30.000	-	17.015	0.000	-0.205	-2630.769
10	14.000	12.833	-	0.000	-0.000	-32.667	-408.897
11	1.103	2.000	-	0.000	0.000	-0.828	4.000
12	3.692	6.000	-	0.000	-5.222	8.527	27.266
13	1.925	-2.143	-	2.400	0.000	7.119	2.841
14	1.137	-3.127	-	0.000	2.345	-6.160	7.411
15	3.214	5.625	-	0.000	0.000	15.497	20.157
16	12.000	-	12.124	8.083	14.000	-18.860	131.002
17	-1.609	-5.052	-	-2.523	5.574	-38.501	34.199
18	1.000	-	0.556	-1.300	1.599	-4.179	0.523
19	15.000	-38.750	-	0.000	32.069	1413.860	57.566
20	0.667	-0.244	-	0.707	0.000	-0.128	0.245
21	3.149	-	5.000	2.105	-7.500	3.807	-117.882
22	1.487	4.722	-	2.454	0.000	-21.439	27.682
23	0.321	-0.119	-	-0.412	0.731	-0.827	0.622
24	6.000	5.167	-	0.000	0.000	5.480	60.062
25	-42.677	-	21.000	-37.420	230.087	-196.730	-86785.024
26	-2.998	-3.750	-	-2.000	1.989	-11.999	11.413
27	13.000	-	-26.000	23.533	45.255	1165.625	5060.389
28	-19.200	-	16.000	0.000	-0.000	1146.939	-1174.259
29	-4.355	-8.438	-	-2.893	0.000	46.504	71.191
30	-24.200	-	6.000	25.668	28.907	1280.010	2839.440