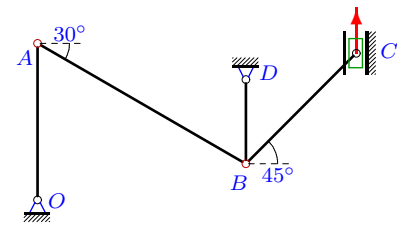
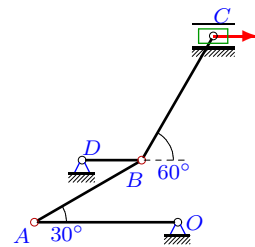
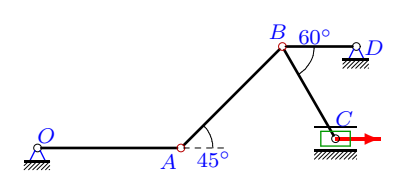
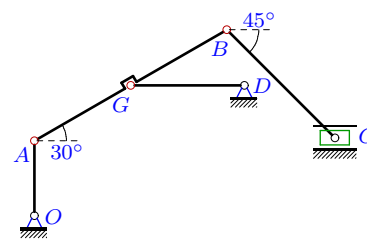
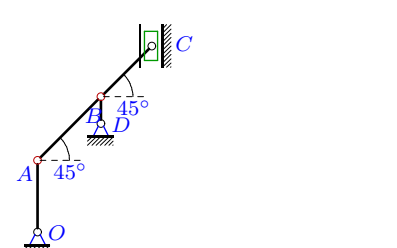
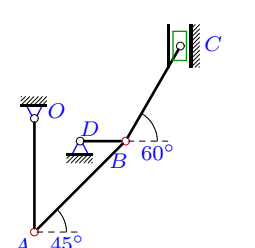
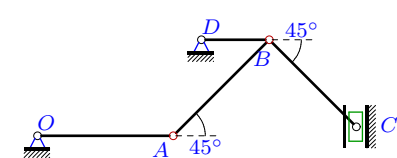
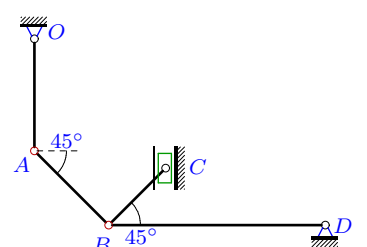
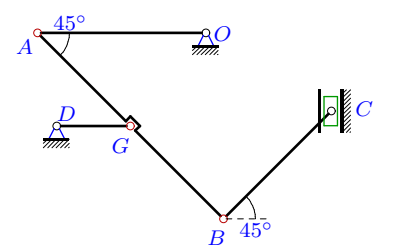
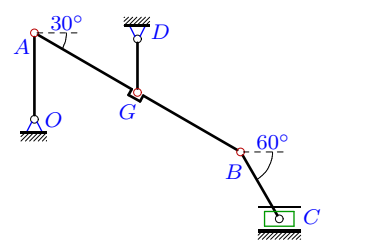


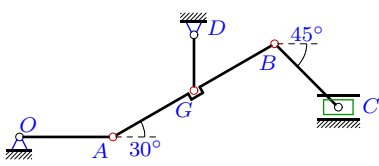
Кинематический анализ механизма (4звена)

Найти скорости и ускорения шарниров плоского механизма.

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

<p>Задача 7.1</p>  <p style="text-align: right;"> $v_C = 40 \text{ см/с,}$ $OA = 26 \text{ см,}$ $DB = 14 \text{ см,}$ $AB = 40 \text{ см,}$ $BC = 26 \text{ см.}$ </p> <p style="font-size: small;">7.3</p>	<p>Задача 7.2</p>  <p style="text-align: right;"> $v_C = 30 \text{ см/с,}$ $OA = 29 \text{ см,}$ $DB = 12 \text{ см,}$ $AB = 25 \text{ см,}$ $BC = 29 \text{ см.}$ </p> <p style="font-size: small;">7.3</p>
<p>Задача 7.3</p>  <p style="text-align: right;"> $v_C = 145 \text{ см/с,}$ $OA = 31 \text{ см,}$ $DB = 16 \text{ см,}$ $AB = 31 \text{ см,}$ $BC = 23 \text{ см.}$ </p> <p style="font-size: small;">7.3</p>	<p>Задача 7.4</p>  <p style="text-align: right;"> $\omega_{DG} = 6 \text{ рад/с,}$ $OA = 27 \text{ см,}$ $BG = 40 \text{ см,}$ $DG = 41 \text{ см,}$ $AG = 40 \text{ см,}$ $BC = 55 \text{ см.}$ </p> <p style="font-size: small;">7.3</p>
<p>Задача 7.5</p>  <p style="text-align: right;"> $\omega_{OA} = 33 \text{ рад/с,}$ $OA = 32 \text{ см,}$ $DB = 12 \text{ см,}$ $AB = 40 \text{ см,}$ $BC = 32 \text{ см.}$ </p> <p style="font-size: small;">7.3</p>	<p>Задача 7.6</p>  <p style="text-align: right;"> $\omega_{DB} = 2 \text{ рад/с,}$ $OA = 30 \text{ см,}$ $DB = 12 \text{ см,}$ $AB = 34 \text{ см,}$ $BC = 29 \text{ см.}$ </p> <p style="font-size: small;">7.3</p>
<p>Задача 7.7</p>  <p style="text-align: right;"> $\omega_{DB} = 26 \text{ рад/с,}$ $OA = 32 \text{ см,}$ $DB = 16 \text{ см,}$ $AB = 32 \text{ см,}$ $BC = 29 \text{ см.}$ </p> <p style="font-size: small;">7.3</p>	<p>Задача 7.8</p>  <p style="text-align: right;"> $\omega_{DB} = 19 \text{ рад/с,}$ $OA = 32 \text{ см,}$ $DB = 62 \text{ см,}$ $AB = 30 \text{ см,}$ $BC = 23 \text{ см.}$ </p> <p style="font-size: small;">7.3</p>
<p>Задача 7.9</p>  <p style="text-align: right;"> $\omega_{OA} = 6 \text{ рад/с,}$ $OA = 32 \text{ см,}$ $BG = 25 \text{ см,}$ $DG = 14 \text{ см,}$ $AG = 25 \text{ см,}$ $BC = 29 \text{ см.}$ </p> <p style="font-size: small;">7.3</p>	<p>Задача 7.10</p>  <p style="text-align: right;"> $\omega_{DG} = 2 \text{ рад/с,}$ $OA = 29 \text{ см,}$ $BG = 40 \text{ см,}$ $DG = 18 \text{ см,}$ $AG = 40 \text{ см,}$ $BC = 26 \text{ см.}$ </p> <p style="font-size: small;">7.3</p>

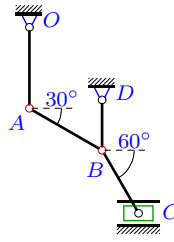
Задача 7.11



$\omega_{DG} = 16$ рад/с,
 $OA = 27$ см,
 $BG = 27$ см,
 $DG = 16$ см,
 $AG = 27$ см,
 $BC = 26$ см.

7.3

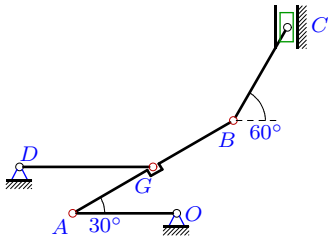
Задача 7.12



$\omega_{OA} = 22$ рад/с,
 $OA = 29$ см,
 $DB = 18$ см,
 $AB = 30$ см,
 $BC = 26$ см.

7.3

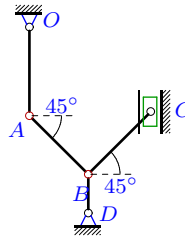
Задача 7.13



$\omega_{OA} = 21$ рад/с,
 $OA = 28$ см,
 $BG = 25$ см,
 $DG = 36$ см,
 $AG = 25$ см,
 $BC = 29$ см.

7.3

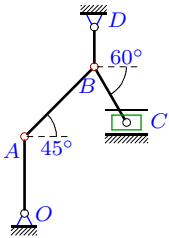
Задача 7.14



$\omega_{DB} = 7$ рад/с,
 $OA = 32$ см,
 $DB = 14$ см,
 $AB = 30$ см,
 $BC = 32$ см.

7.3

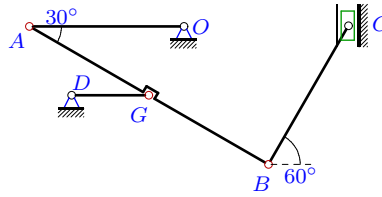
Задача 7.15



$\omega_{OA} = 4$ рад/с,
 $OA = 31$ см,
 $DB = 16$ см,
 $AB = 40$ см,
 $BC = 26$ см.

7.3

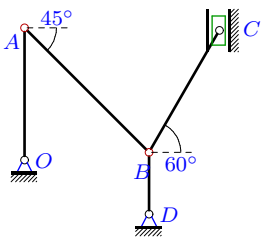
Задача 7.16



$\omega_{OA} = 6$ рад/с,
 $OA = 28$ см,
 $BG = 25$ см,
 $DG = 14$ см,
 $AG = 25$ см,
 $BC = 29$ см.

7.3

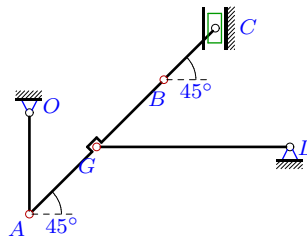
Задача 7.17



$\omega_{DB} = 23$ рад/с,
 $OA = 30$ см,
 $DB = 14$ см,
 $AB = 40$ см,
 $BC = 32$ см.

7.3

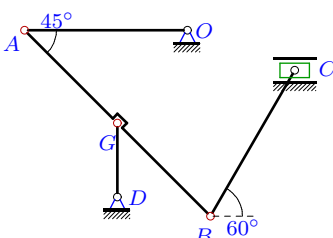
Задача 7.18



$\omega_{DG} = 10$ рад/с,
 $OA = 32$ см,
 $BG = 30$ см,
 $DG = 61$ см,
 $AG = 30$ см,
 $BC = 23$ см.

7.3

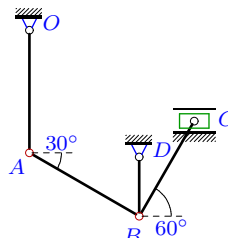
Задача 7.19



$\omega_{OA} = 17$ рад/с,
 $OA = 31$ см,
 $BG = 25$ см,
 $DG = 14$ см,
 $AG = 25$ см,
 $BC = 32$ см.

7.3

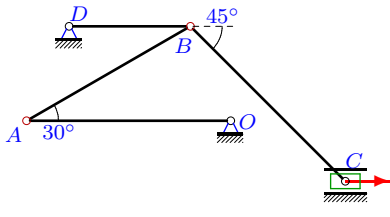
Задача 7.20



$\omega_{DB} = 32$ рад/с,
 $OA = 29$ см,
 $DB = 14$ см,
 $AB = 30$ см,
 $BC = 26$ см.

7.3

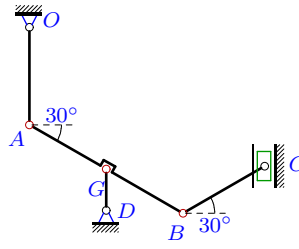
Задача 7.21



$v_C = 10 \text{ см/с}$,
 $OA = 27 \text{ см}$,
 $DB = 16 \text{ см}$,
 $AB = 25 \text{ см}$,
 $BC = 29 \text{ см}$.

7.3

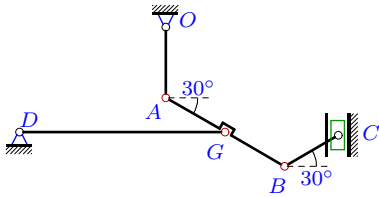
Задача 7.22



$\omega_{DG} = 13 \text{ рад/с}$,
 $OA = 33 \text{ см}$,
 $BG = 30 \text{ см}$,
 $DG = 14 \text{ см}$,
 $AG = 30 \text{ см}$,
 $BC = 32 \text{ см}$.

7.3

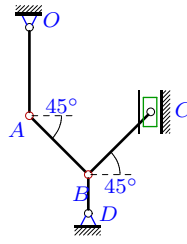
Задача 7.23



$\omega_{DG} = 19 \text{ рад/с}$,
 $OA = 33 \text{ см}$,
 $BG = 32 \text{ см}$,
 $DG = 96 \text{ см}$,
 $AG = 32 \text{ см}$,
 $BC = 29 \text{ см}$.

7.3

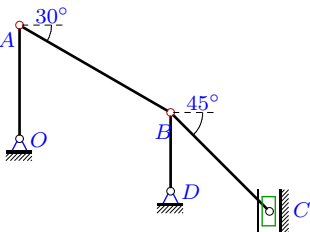
Задача 7.24



$\omega_{DB} = 5 \text{ рад/с}$,
 $OA = 32 \text{ см}$,
 $DB = 14 \text{ см}$,
 $AB = 30 \text{ см}$,
 $BC = 32 \text{ см}$.

7.3

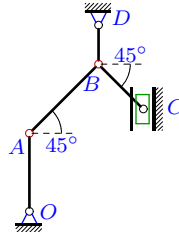
Задача 7.25



$\omega_{DB} = 17 \text{ рад/с}$,
 $OA = 26 \text{ см}$,
 $DB = 18 \text{ см}$,
 $AB = 40 \text{ см}$,
 $BC = 32 \text{ см}$.

7.3

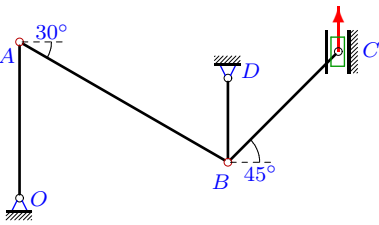
Задача 7.26



$\omega_{OA} = 2 \text{ рад/с}$,
 $OA = 32 \text{ см}$,
 $DB = 16 \text{ см}$,
 $AB = 40 \text{ см}$,
 $BC = 26 \text{ см}$.

7.3

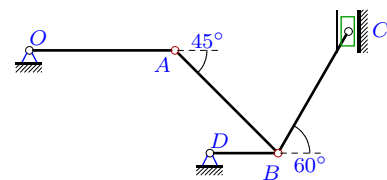
Задача 7.27



$v_C = 90 \text{ см/с}$,
 $OA = 26 \text{ см}$,
 $DB = 14 \text{ см}$,
 $AB = 40 \text{ см}$,
 $BC = 26 \text{ см}$.

7.3

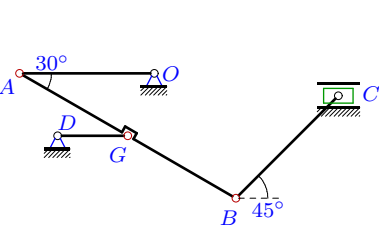
Задача 7.28



$\omega_{DB} = 14 \text{ рад/с}$,
 $OA = 30 \text{ см}$,
 $DB = 14 \text{ см}$,
 $AB = 30 \text{ см}$,
 $BC = 29 \text{ см}$.

7.3

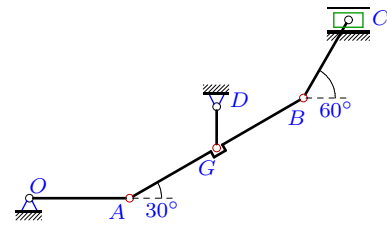
Задача 7.29



$\omega_{OA} = 22 \text{ рад/с}$,
 $OA = 27 \text{ см}$,
 $BG = 25 \text{ см}$,
 $DG = 14 \text{ см}$,
 $AG = 25 \text{ см}$,
 $BC = 29 \text{ см}$.

7.3

Задача 7.30



$\omega_{DG} = 31 \text{ рад/с}$,
 $OA = 29 \text{ см}$,
 $BG = 29 \text{ см}$,
 $DG = 12 \text{ см}$,
 $AG = 29 \text{ см}$,
 $BC = 26 \text{ см}$.

7.3

Кинематический анализ механизма (4звена)

n	v_A	v_B	v_C	v_G	a_A	a_B	a_C	a_G
1	0.400	0.400	0.400	–	0.744	1.290	0.000	–
2	0.173	0.173	0.300	–	0.104	0.670	0.000	–
3	0.837	0.837	1.450	–	5.400	12.348	0.000	–
4	1.420	5.121	6.340	2.460	43.020	14.861	144.801	14.760
5	10.560	10.560	10.560	–	348.480	1095.851	1334.130	–
6	0.240	0.240	0.240	–	0.272	0.480	0.277	–
7	4.160	4.160	4.160	–	76.481	108.160	108.160	–
8	11.780	11.780	11.780	–	2013.056	223.820	223.820	–
9	1.920	1.920	1.920	1.920	11.520	99.249	139.886	46.109
10	0.360	0.360	0.360	0.360	0.808	2.004	2.594	0.720
11	4.434	6.773	9.554	2.560	368.530	288.680	138.281	40.960
12	6.380	6.380	6.380	–	140.360	231.495	342.156	–
13	5.880	5.880	5.880	5.880	123.480	823.314	578.251	392.162
14	0.980	0.980	0.980	–	10.308	6.860	15.349	–
15	1.240	1.240	1.240	–	4.960	17.454	31.215	–
16	1.680	1.680	1.680	1.680	10.080	116.248	133.853	56.123
17	3.220	3.220	1.859	–	52.485	74.060	123.945	–
18	6.100	13.640	6.100	6.100	317.591	208.894	747.410	61.000
19	5.270	11.784	19.668	5.270	89.590	1016.244	2317.118	467.210
20	4.480	4.480	4.480	–	81.379	143.360	248.307	–
21	0.100	0.100	0.100	–	0.334	0.172	0.000	–
22	1.820	1.820	3.152	1.820	21.892	60.567	173.865	23.660
23	10.531	37.970	54.720	18.240	1486.637	2167.486	7104.144	346.560
24	0.700	0.700	0.700	–	5.259	3.500	7.831	–
25	3.060	3.060	3.060	–	37.181	52.020	30.743	–
26	0.640	0.640	0.640	–	1.280	4.615	10.856	–
27	0.900	0.900	0.900	–	3.764	6.529	0.000	–
28	1.960	1.960	1.960	–	19.446	27.440	15.842	–
29	5.940	5.940	5.940	5.940	130.680	1469.846	2304.591	709.160
30	6.443	9.842	3.720	3.720	758.651	533.931	2025.171	115.320

№	ω_{OA}	ω_{DB}	ω_{DG}	ω_{AB}	ω_{BC}	ε_{AB}	ε_{BC}
1	-1.538	2.857	-	0.000	2.176	5.076	-1.483
2	-0.597	1.443	-	-0.000	-1.195	2.828	-1.819
3	-2.701	5.232	-	0.000	7.280	-30.296	8.605
4	5.260	-	6.000	-7.101	12.651	50.683	-179.253
5	33.000	88.000	-	0.000	-46.669	-2053.438	388.798
6	0.800	2.000	-	0.998	-0.000	0.198	-1.911
7	13.000	26.000	-	0.000	0.000	239.002	527.453
8	36.813	19.000	-	-55.531	0.000	-5127.994	1376.214
9	6.000	-	-13.714	0.000	0.000	-214.120	-312.994
10	-1.241	-	2.000	0.000	0.000	3.369	-14.515
11	16.422	-	16.000	-18.963	24.118	-1162.226	937.755
12	22.000	35.444	-	0.000	0.000	330.150	-1739.504
13	21.000	-	-16.333	0.000	0.000	1756.160	-1256.473
14	-3.062	7.000	-	0.000	-4.331	-46.486	-18.758
15	4.000	-7.750	-	0.000	0.000	51.513	-73.923
16	6.000	-	-12.000	0.000	0.000	-241.920	-200.679
17	10.733	23.000	-	0.000	-11.619	-139.649	-77.945
18	-19.063	-	10.000	-28.756	37.507	278.734	-2473.848
19	17.000	-	-37.643	29.812	-32.938	-2010.927	4358.789
20	15.448	32.000	-	0.000	0.000	285.410	-1102.769
21	0.370	-0.625	-	0.000	0.488	0.796	0.543
22	-5.515	-	13.000	0.000	-11.375	-129.702	-345.707
23	-31.912	-	19.000	65.818	72.627	-3713.727	-23903.352
24	-2.187	5.000	-	0.000	-3.094	-23.718	-9.570
25	11.769	17.000	-	0.000	13.523	-46.206	182.883
26	2.000	-4.000	-	0.000	3.481	13.576	33.005
27	-3.462	6.429	-	0.000	4.895	25.695	-7.506
28	6.533	14.000	-	0.000	-0.000	-68.988	-109.259
29	22.000	-	-42.429	0.000	28.967	-3061.646	7304.147
30	22.218	-	31.000	-25.655	49.563	-2127.297	8211.605