

MEHANIKA III

GRAFIČKI RAD BR. 3b

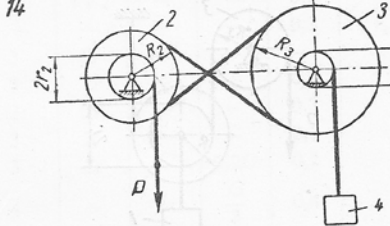
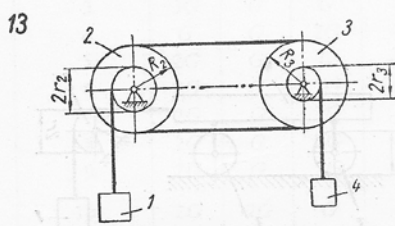
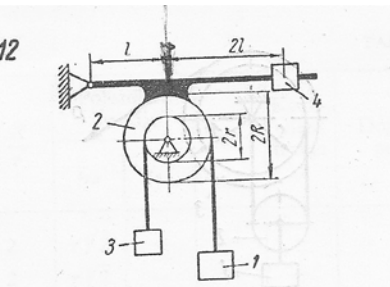
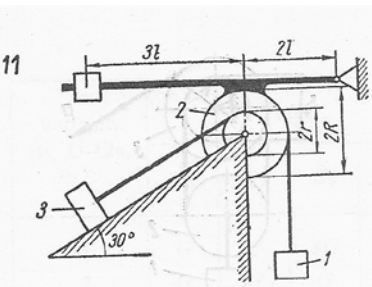
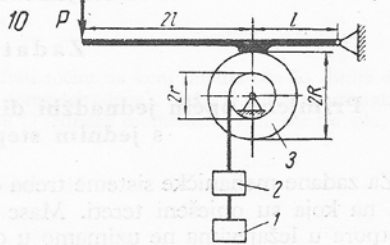
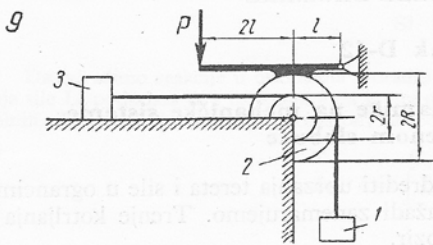
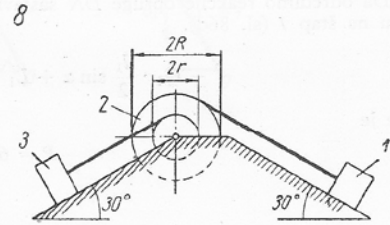
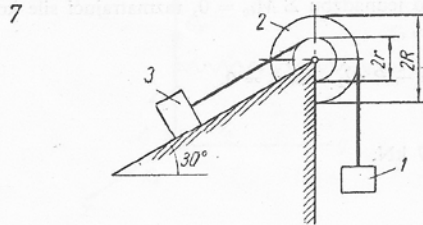
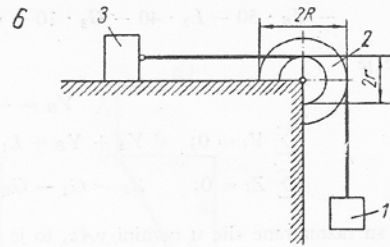
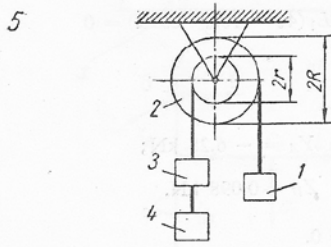
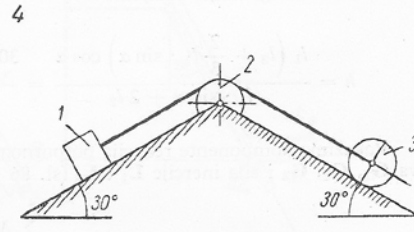
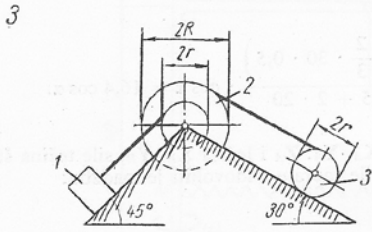
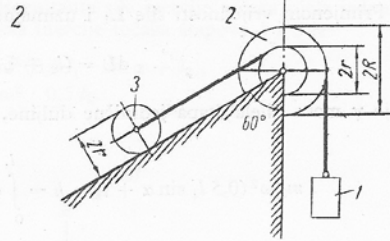
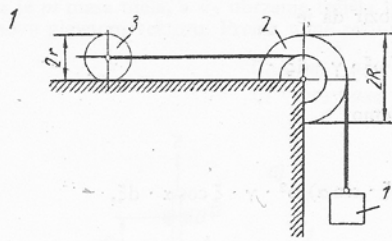
Primjena principa analitičke mehanike na mehanički sistem sa jednim stepenom slobode

Za mehanički sistem treba odrediti ubrzanje tereta i sile u ograncima užadi na koja su obješeni tereti. Sistem započinje kretanje iz stanja mirovanja. Mase užadi zanemariti. Trenje kotrljanja i sile otpora u ležajevima ne uzimati u obzir.

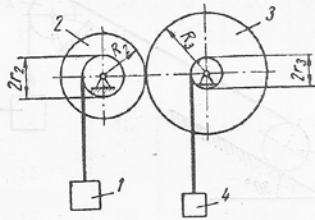
Varijanta (sl. D-12a, b, c)	Tereti				$\frac{R}{r}$	Polumjeri inercije		P	Koeffi- cijent trenja μ	Dopunski podaci
	G_1	G_2	G_3	G_4		i_{2x}	i_{3x}			
1	G	G	3G	—	2	$r\sqrt{2}$	—	—	—	
2	G	G	G	—	2	$r\sqrt{2}$	—	—	—	
3	3G	G	G	—	2	$r\sqrt{2}$	—	—	0,1	
4	G	G	2G	—	—	—	—	—	0,2	$r_2 = r_3$
5	2G	G	G	G	3	2r	—	—	—	
6	2G	G	2G	—	3	2r	—	—	0,2	
7	2G	G	2G	—	3	2r	—	—	0,2	
8	2G	G	2G	—	3	2r	—	—	0,2	
9	2G	G	2G	—	3	2r	—	0,2G	0,2	
10	2G	2G	G	—	4	—	2r	$\frac{G}{3}$	0,4	
11	2G	G	2G	0,2G	3	2r	—	—	0,2	
12	2G	G	2G	0,2G	3	2r	—	—	0,2	
13	4G	2G	G	4G	—	$r_2\sqrt{2}$	$2r_3$	—	—	$r_2 = 2r_3;$ $R_2 = R_3$
14	—	2G	G	4G	—	$r_2\sqrt{2}$	$2r_3$	4G	—	$r_2 = 2r_3;$ $R_2 = R_3$
15	4G	G	2G	4G	—	$r_2\sqrt{2}$	$2r_3$	—	—	$r_2 = 2r_3;$ $R_2 = R_3$
16	—	G	2G	4G	—	$r_2\sqrt{2}$	$2r_3$	4G	—	$r_2 = 2r_3;$ $R_2 = R_3$
17	2G	G	G	—	2	$r\sqrt{2}$	—	—	0,1	
18	3G	0,2G	0,1G	0,5G	2	—	—	—	0,4	
19	4G	0,3G	0,2G	3G	3	2r	1,2r	—	0,1	$r_3 = 1,2r;$ $R_3 = 1,2r_3$
20	4G	0,2G	0,1G	3G	2	1,6r	$r\sqrt{2}$	—	0,2	$r_2 = 1,5r;$ $R_2 = 1,2r_2$
21	5G	0,1G	0,2G	—	3	—	$r\sqrt{2}$	G	—	
22	G	0,2G	0,3G	—	2	—	$r\sqrt{2}$	G	—	
23	G	0,2G	0,1G	—	1,5	1,2r	—	2G	—	$R_3 = 1,2r$
24	2G	G	G	8G	—	—	—	—	—	
25	6G	2G	2G	G	—	—	—	—	—	$r_3 = r_4$
26	6G	G	2G	—	—	—	—	—	—	$r_3 = r_2$
27	G	G	G	4G	2	$r\sqrt{2}$	$r\sqrt{2}$	—	—	
28	3G	G	G	—	2	—	2r	—	0,1	
29	6G	3G	G	G	2	—	$r\sqrt{2}$	—	—	$i_{4x} = i_{3x}$
30	8G	G	G	2G	—	—	—	—	0,1	

Primjedbe.

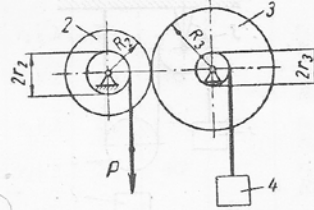
1. Polumjeri inercije dani su s obzirom na centralne osi, okomite na ravnine crteža (sl. D-12a, b, c).
2. Koefficijente trenja odaberimo jednake kako pri klizanju tijela po ravnini, tako i pri kočenju papučicom (varijante 9 do 12).



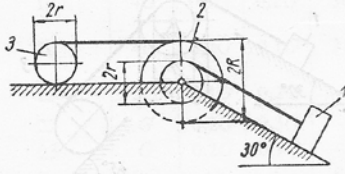
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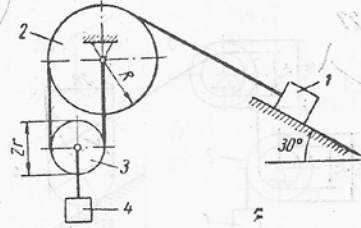
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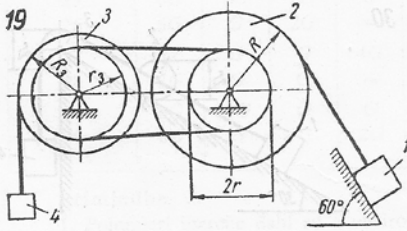
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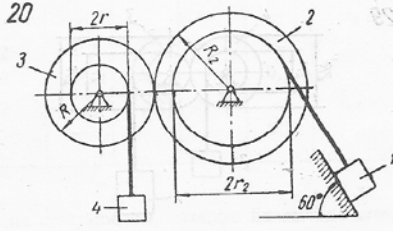
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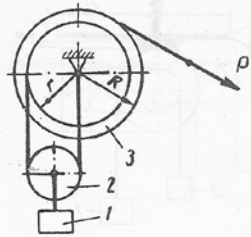
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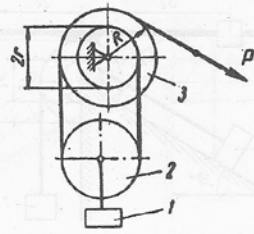
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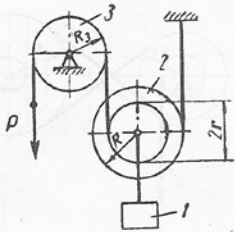
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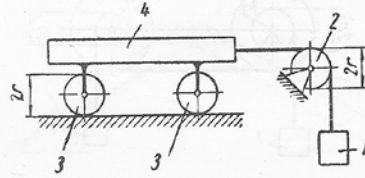
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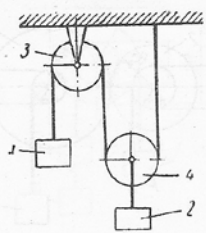
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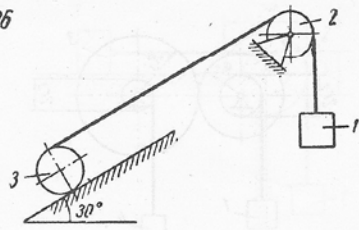
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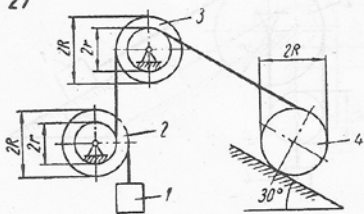
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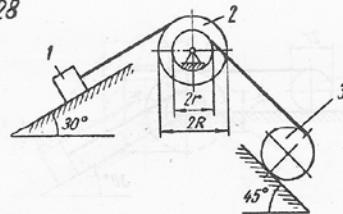
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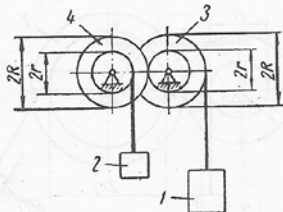
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