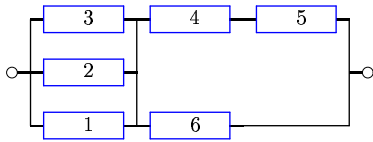# Вероятность безотказной работы цепи

Найти вероятность безотказной работы функциональной цепи из независимых элементов. Дана вероятность безотказной работы каждого элемента.
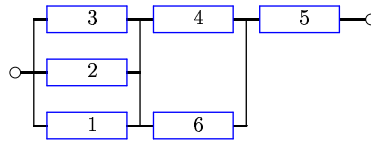
Задача L-29.1. [1]

$p_1 = 0.8, p_2 = 0.5, p_3 = 0.3,$
$p_4 = 0.4, p_5 = 0.3, p_6 = 0.8.$

Задача L-29.2. [1]

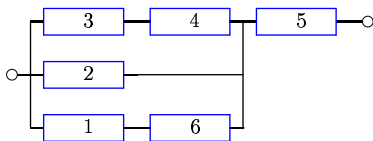$p_1 = 0.9, p_2 = 0.3, p_3 = 0.6,$
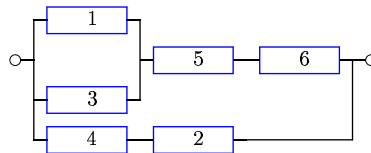$p_4 = 0.8, p_5 = 0.2, p_6 = 0.7.$

Задача L-29.3. [1]

$p_1 = 0.6, p_2 = 0.5, p_3 = 0.4,$
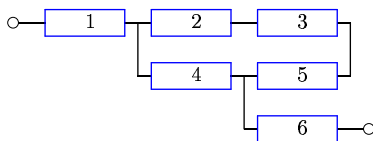$p_4 = 0.3, p_5 = 0.4, p_6 = 0.8.$

Задача L-29.4. [1]

$p_1 = 0.6, p_2 = 0.9, p_3 = 0.3,$
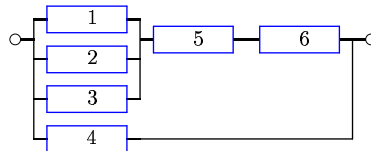$p_4 = 0.3, p_5 = 0.8, p_6 = 0.9.$

Задача L-29.5. [1]

$p_1 = 0.4, p_2 = 0.6, p_3 = 0.9,$
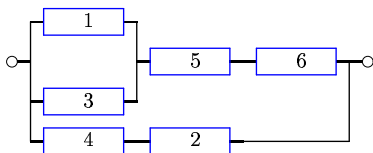$p_4 = 0.6, p_5 = 0.4, p_6 = 0.3.$

Задача L-29.6. [1]

$p_1 = p_2 = 0.5, p_3 = 0.4,$
$p_4 = 0.9, p_5 = 0.3, p_6 = 0.9.$

Задача L-29.7. [1]

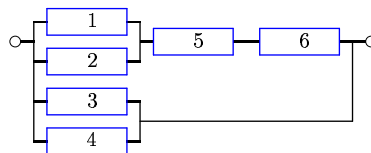$p_1 = 0.4, p_2 = 0.2, p_3 = 0.9,$
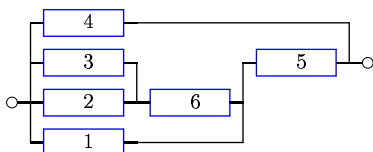$p_4 = 0.8, p_5 = 0.3, p_6 = 0.5.$

Задача L-29.8. [1]

$p_1 = 0.3, p_2 = 0.6, p_3 = 0.2,$
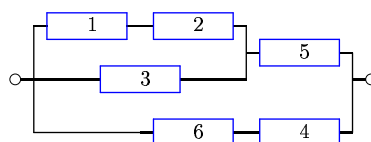$p_4 = 0.7, p_5 = 0.6, p_6 = 0.4.$

Задача L-29.9. [1]

$p_1 = 0.8, p_2 = 0.6, p_3 = 0.7,$
$p_4 = 0.7, p_5 = 0.5, p_6 = 0.2.$

Задача L-29.10. [1]
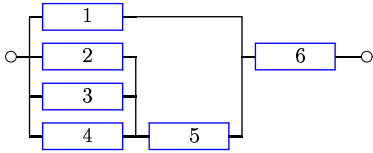

$p_1 = 0.8, p_2 = 0.4, p_3 = 0.9,$
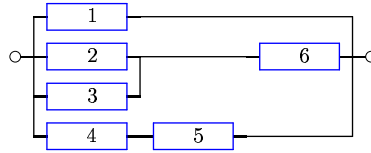$p_4 = 0.4, p_5 = 0.7, p_6 = 0.2.$

Задача L-29.11.

$p_1 = 0.4, p_2 = 0.6, p_3 = 0.9,$
$p_4 = 0.7, p_5 = 0.5, p_6 = 0.4.$

Задача L-29.12.
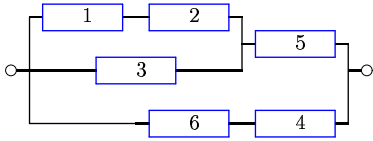

$p_1 = 0.2, p_2 = 0.8, p_3 = 0.9,$
$p_4 = 0.9, p_5 = 0.8, p_6 = 0.2.$

Задача L-29.13.
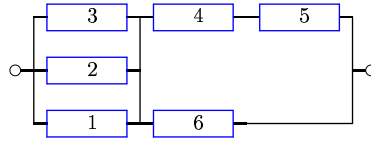

$p_1 = 0.3, p_2 = 0.5, p_3 = 0.4,$
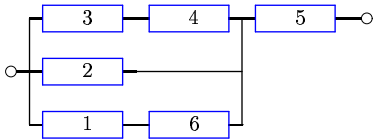$p_4 = 0.2, p_5 = 0.8, p_6 = 0.5.$

Задача L-29.14.

$p_1 = 0.6, p_2 = 0.8, p_3 = 0.7,$
$p_4 = 0.9, p_5 = 0.5, p_6 = 0.4.$

Задача L-29.15.

$p_1 = 0.5, p_2 = 0.4, p_3 = 0.9,$
$p_4 = 0.8, p_5 = 0.5, p_6 = 0.4.$

Задача L-29.16.

$p_1 = 0.6, p_2 = 0.5, p_3 = 0.3,$
$p_4 = p_5 = 0.7, p_6 = 0.8.$

Задача L-29.17.

$p_1 = 0.5, p_2 = 0.3, p_3 = 0.7,$
$p_4 = 0.4, p_5 = 0.7, p_6 = 0.2.$

Задача L-29.18.

$p_1 = p_2 = 0.5, p_3 = 0.8,$
$p_4 = 0.2, p_5 = 0.7, p_6 = 0.3.$

Задача L-29.19.

$p_1 = 0.5, p_2 = 0.8, p_3 = 0.7,$
$p_4 = 0.3, p_5 = 0.9, p_6 = 0.6.$

Задача L-29.20.

$p_1 = p_2 = 0.9, p_3 = 0.3,$
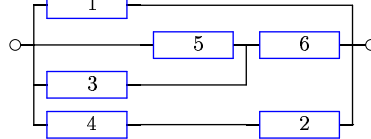$p_4 = 0.8, p_5 = 0.3, p_6 = 0.7.$

Задача L-29.21. [1]

$p_1 = 0.3, p_2 = 0.2, p_3 = 0.4,$
$p_4 = 0.4, p_5 = 0.2, p_6 = 0.4.$

Задача L-29.22. [1]

$p_1 = 0.4, p_2 = 0.2, p_3 = 0.3,$
$p_4 = 0.3, p_5 = 0.4, p_6 = 0.9.$

Задача L-29.23. [1]

$p_1 = p_2 = 0.8, p_3 = 0.3,$
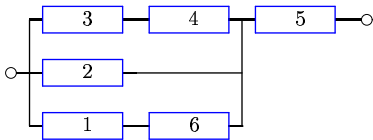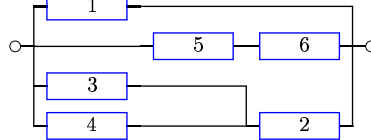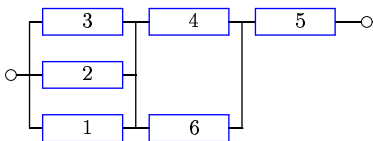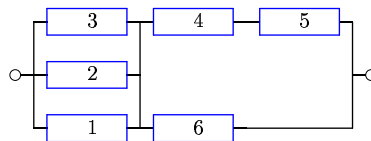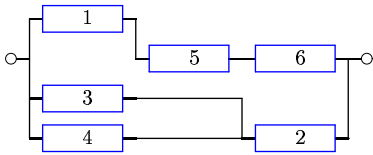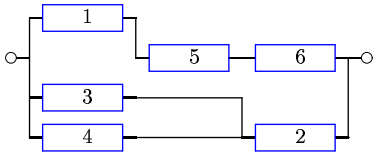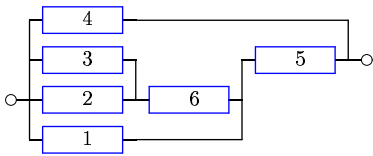$p_4 = 0.4, p_5 = 0.7, p_6 = 0.6.$

Задача L-29.24. [1]

$p_1 = 0.4, p_2 = 0.9, p_3 = 0.5,$
$p_4 = p_5 = 0.2, p_6 = 0.1.$

Задача L-29.25. [1]

$p_1 = 0.3, p_2 = 0.7, p_3 = 0.4,$
$p_4 = 0.7, p_5 = 0.5, p_6 = 0.4.$

Задача L-29.26. [1]

$p_1 = 0.7, p_2 = 0.4, p_3 = 0.6,$
$p_4 = 0.7, p_5 = 0.3, p_6 = 0.5.$

Задача L-29.27. [1]

$p_1 = 0.6, p_2 = 0.9, p_3 = 0.2,$
$p_4 = 0.7, p_5 = 0.4, p_6 = 0.8.$

Задача L-29.28. [1]

$p_1 = 0.2, p_2 = 0.3, p_3 = 0.6,$
$p_4 = 0.2, p_5 = 0.8, p_6 = 0.6.$

Задача L-29.29. [1]
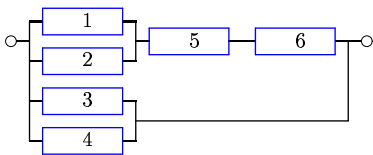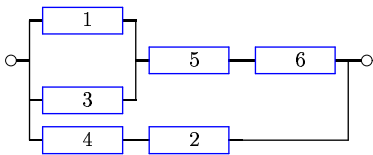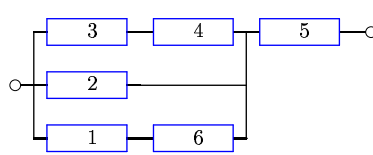

$p_1 = p_2 = 0.7, p_3 = 0.2,$
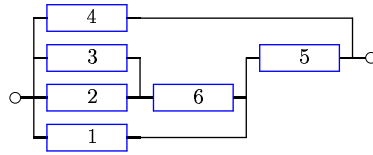$p_4 = p_5 = 0.5, p_6 = 0.9.$

Задача L-29.30. [1]

$p_1 = 0.9, p_2 = 0.6, p_3 = 0.3,$
$p_4 = 0.8, p_5 = 0.2, p_6 = 0.6.$

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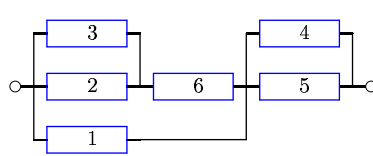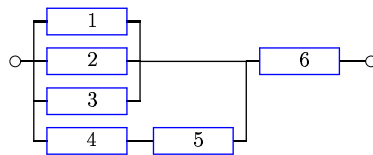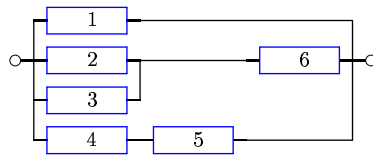| №	P	Формула, $q_i = 1 - p_i$
1	0.766	$(1 - (1 - p_5 p_4)q_6)(1 - q_1 q_2 q_3)$
2	0.183	$(1 - q_4 q_6)(1 - q_1 q_2 q_3)p_5$
3	0.308	$(1 - (1 - p_1 p_6)(1 - p_4 p_3)q_2)p_5$
4	0.648	$1 - (1 - (1 - q_1 q_3)p_5 p_6)(1 - p_4 p_2)$
5	0.082	$(1 - (1 - p_2 p_3 p_5)q_4)p_6 p_1;$
6	0.923	$1 - (1 - (1 - q_1 q_2 q_3)p_5 p_6)q_4$
7	0.278	$1 - (1 - (1 - q_1 q_3)p_5 p_6)(1 - p_4 p_2)$
8	0.801	$1 - (1 - (1 - q_1 q_2)p_5 p_6)q_3 q_4$
9	0.825	$1 - (1 - (1 - (1 - (1 - q_2 q_3)p_6)q_1)p_5)q_4;$
10	0.680	$1 - (1 - (1 - (1 - p_1 p_2)q_3)p_5)(1 - p_6 p_4)$
11	0.279	$(1 - q_1(1 - (1 - q_2 q_3 q_4)p_5))p_6$
12	0.820	$1 - q_1(1 - p_4 p_5)(1 - (1 - q_2 q_3)p_6)$
13	0.453	$1 - (1 - (1 - (1 - p_1 p_2)q_3)p_5)(1 - p_6 p_4)$
14	0.654	$(1 - (1 - p_5 p_4)q_6)(1 - q_1 q_2 q_3)$
15	0.433	$(1 - (1 - p_1 p_6)(1 - p_4 p_3)q_2)p_5$
16	0.904	$1 - (1 - (1 - q_5 q_3)p_6)(1 - p_4 p_2)q_1$
17	0.382	$(1 - (1 - p_1 p_6)(1 - p_4 p_3)q_2)p_5$
18	0.771	$1 - (1 - p_5 p_6)q_1(1 - p_2(1 - q_3 q_4))$
19	0.629	$(1 - q_4 q_6)(1 - q_1 q_2 q_3)p_5$
20	0.767	$(1 - (1 - p_5 p_4)q_6)(1 - q_1 q_2 q_3)$
21	0.149	$1 - (1 - p_5 p_6 p_1)(1 - p_2(1 - q_3 q_4))$
22	0.214	$(1 - (1 - p_1 p_6)(1 - p_4 p_3)q_2)p_5$
23	0.644	$1 - (1 - p_5 p_6 p_1)(1 - p_2(1 - q_3 q_4))$
24	0.273	$1 - (1 - (1 - (1 - (1 - q_2 q_3)p_6)q_1)p_5)q_4;$
25	0.779	$1 - (1 - (1 - (1 - (1 - q_2 q_3)p_6)q_1)p_5)q_4;$
26	0.643	$(1 - (1 - (1 - q_2 q_3)p_6)q_1)(1 - q_4 q_5);$
27	0.834	$1 - (1 - (1 - q_1 q_2)p_5 p_6)q_3 q_4$
28	0.487	$(1 - q_1 q_2 q_3(1 - p_4 p_5))p_6;$
29	0.572	$1 - (1 - (1 - q_1 q_3)p_5 p_6)(1 - p_4 p_2)$
30	0.952	$1 - q_1(1 - p_4 p_5)(1 - (1 - q_2 q_3)p_6)$

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