

Составная рама с линейно распределенной нагрузкой

На раму, составленную из двух шарнирно соединенных частей, действует линейно распределенная нагрузка с максимальной интенсивностью q , сила F и момент M . Определить реакции опор (в кН). Размеры даны в метрах.

Кирсанов М.Н. Задачи по теоретической механике с решениями в Maple 11. – М.: ФИЗМАТЛИТ, 2010. – 264 с. (с.15)

Задача S-34.1. 7

$q = 2 \text{ кН/м}, F = 10 \text{ кН},$
 $M = 20 \text{ кНм}, \cos \alpha = 0.8.$

Задача S-34.2. 7

$q = 2 \text{ кН/м}, F = 15 \text{ кН},$
 $M = 39 \text{ кНм}, \cos \alpha = 0.8.$

Задача S-34.3. 7

$q = 4 \text{ кН/м}, F = 15 \text{ кН},$
 $M = 42 \text{ кНм}, \cos \alpha = 0.8.$

Задача S-34.4. 7

$q = 4 \text{ кН/м}, F = 5 \text{ кН},$
 $M = 20 \text{ кНм}, \cos \alpha = 0.8.$

Задача S-34.5. 7

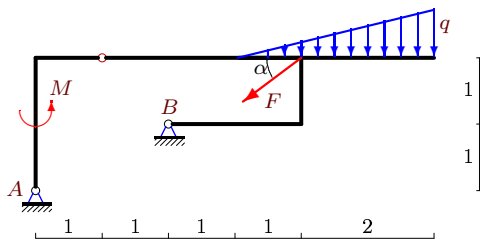
$q = 2 \text{ кН/м}, F = 10 \text{ кН},$
 $M = 11 \text{ кНм}, \cos \alpha = 0.8.$

Задача S-34.6. 7

$q = 6 \text{ кН/м}, F = 10 \text{ кН},$
 $M = 1 \text{ кНм}, \cos \alpha = 0.8.$

Задача S-34.7.

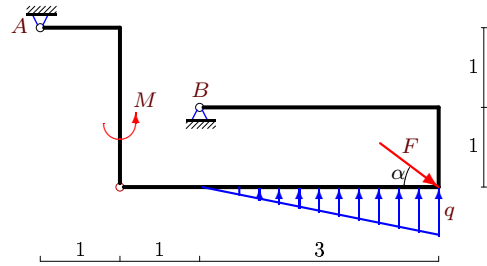
7



$q = 6 \text{ кН/м}$, $F = 10 \text{ кН}$,
 $M = 23 \text{ кНм}$, $\cos \alpha = 0.8$.

Задача S-34.8.

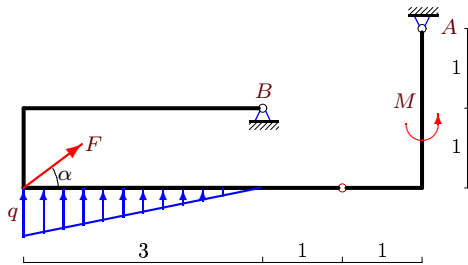
7



$q = 4 \text{ кН/м}$, $F = 15 \text{ кН}$,
 $M = 15 \text{ кНм}$, $\cos \alpha = 0.8$.

Задача S-34.9.

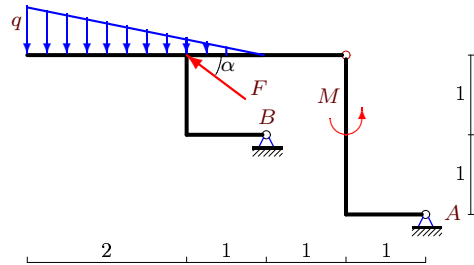
7



$q = 6 \text{ кН/м}$, $F = 15 \text{ кН}$,
 $M = 33 \text{ кНм}$, $\cos \alpha = 0.8$.

Задача S-34.10.

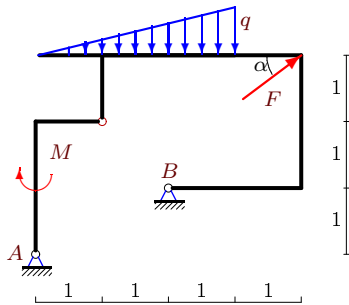
7



$q = 2 \text{ кН/м}$, $F = 10 \text{ кН}$,
 $M = 11 \text{ кНм}$, $\cos \alpha = 0.8$.

Задача S-34.11.

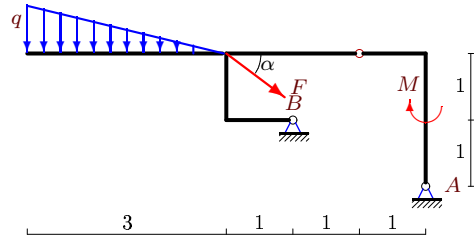
7



$q = 6 \text{ кН/м}$, $F = 10 \text{ кН}$,
 $M = 7 \text{ кНм}$, $\cos \alpha = 0.8$.

Задача S-34.12.

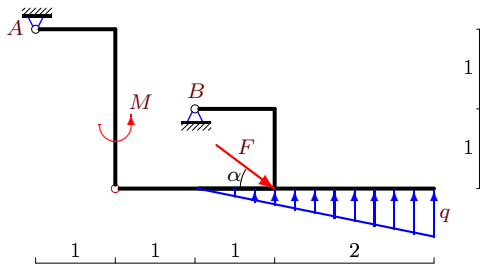
7



$q = 6 \text{ кН/м}$, $F = 10 \text{ кН}$,
 $M = 29 \text{ кНм}$, $\cos \alpha = 0.8$.

Задача S-34.13.

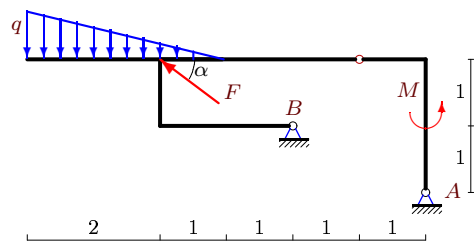
7



$q = 4 \text{ кН/м}$, $F = 15 \text{ кН}$,
 $M = 6 \text{ кНм}$, $\cos \alpha = 0.8$.

Задача S-34.14.

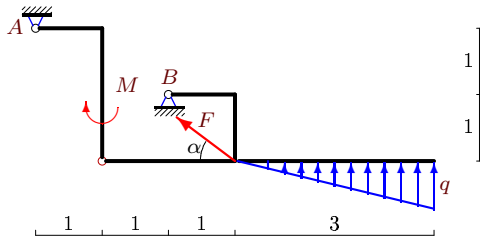
7



$q = 6 \text{ кН/м}$, $F = 5 \text{ кН}$,
 $M = 1 \text{ кНм}$, $\cos \alpha = 0.8$.

Задача S-34.15.

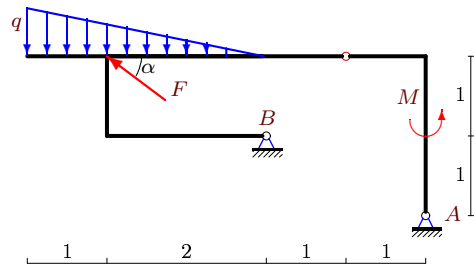
7



$q = 6 \text{ кН/м}$, $F = 10 \text{ кН}$,
 $M = 20 \text{ кНм}$, $\cos \alpha = 0.8$.

Задача S-34.16.

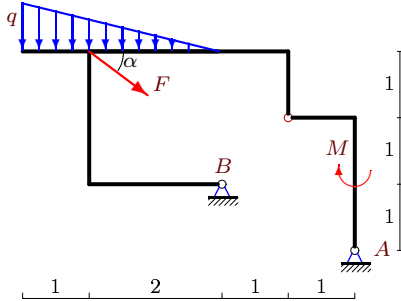
7



$q = 2 \text{ кН/м}$, $F = 15 \text{ кН}$,
 $M = 15 \text{ кНм}$, $\cos \alpha = 0.8$.

Задача S-34.17.

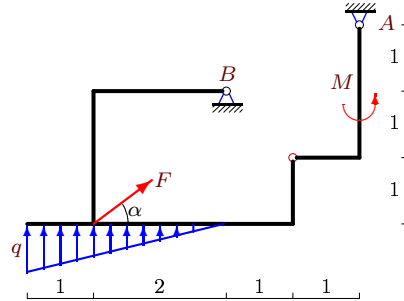
7



$q = 2 \text{ кН/м}$, $F = 10 \text{ кН}$,
 $M = 31 \text{ кНм}$, $\cos \alpha = 0.8$.

Задача S-34.18.

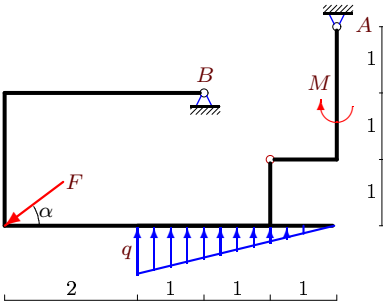
7



$q = 2 \text{ кН/м}$, $F = 5 \text{ кН}$,
 $M = 20 \text{ кНм}$, $\cos \alpha = 0.8$.

Задача S-34.19.

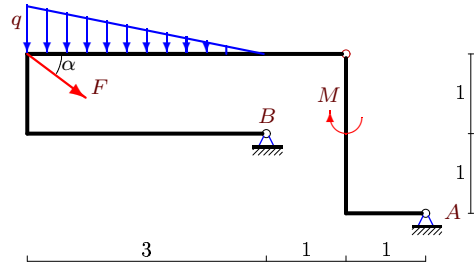
7



$q = 4 \text{ кН/м}$, $F = 15 \text{ кН}$,
 $M = 24 \text{ кНм}$, $\cos \alpha = 0.8$.

Задача S-34.20.

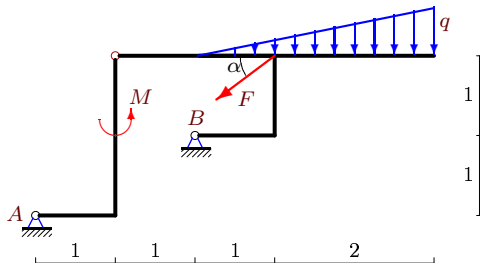
7



$q = 2 \text{ кН/м}$, $F = 5 \text{ кН}$,
 $M = 10 \text{ кНм}$, $\cos \alpha = 0.8$.

Задача S-34.21.

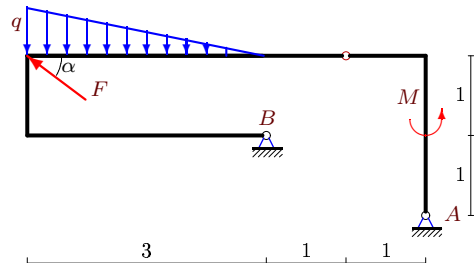
7



$q = 2 \text{ кН/м}$, $F = 10 \text{ кН}$,
 $M = 17 \text{ кНм}$, $\cos \alpha = 0.8$.

Задача S-34.22.

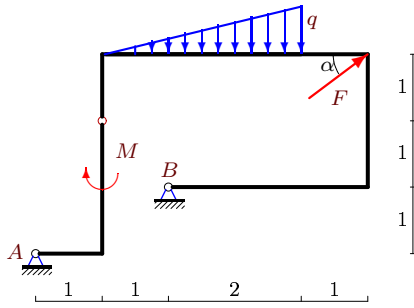
7



$q = 4 \text{ кН/м}$, $F = 15 \text{ кН}$,
 $M = 12 \text{ кНм}$, $\cos \alpha = 0.8$.

Задача S-34.23.

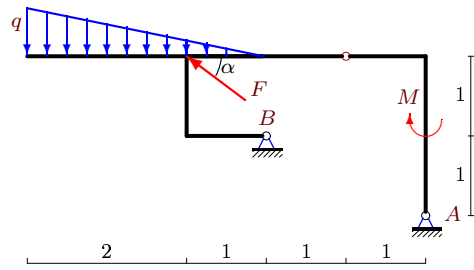
7



$q = 2 \text{ кН/м}$, $F = 15 \text{ кН}$,
 $M = 27 \text{ кНм}$, $\cos \alpha = 0.8$.

Задача S-34.24.

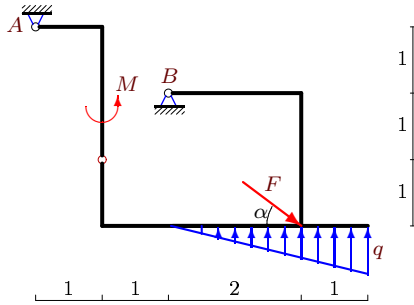
7



$q = 6 \text{ кН/м}$, $F = 10 \text{ кН}$,
 $M = 1 \text{ кНм}$, $\cos \alpha = 0.8$.

Задача S-34.25.

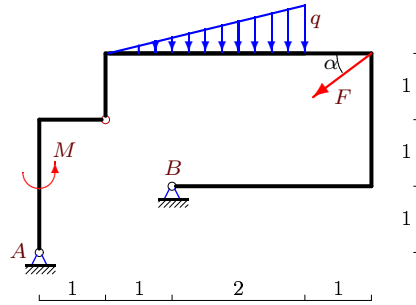
7



$q = 4 \text{ кН/м}$, $F = 10 \text{ кН}$,
 $M = 13 \text{ кНм}$, $\cos \alpha = 0.8$.

Задача S-34.26.

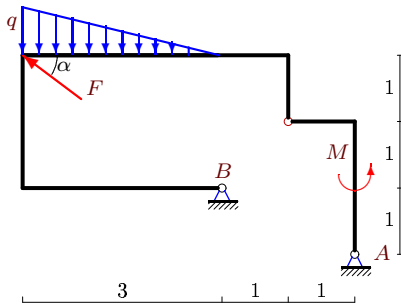
7



$q = 4 \text{ кН/м}$, $F = 5 \text{ кН}$,
 $M = 26 \text{ кНм}$, $\cos \alpha = 0.8$.

Задача S-34.27.

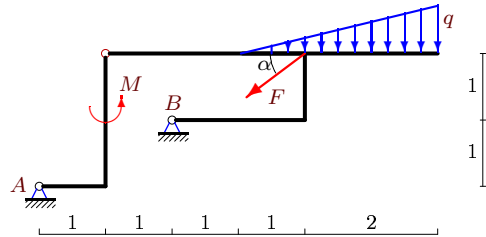
7



$q = 2 \text{ кН/м}$, $F = 10 \text{ кН}$,
 $M = 19 \text{ кНм}$, $\cos \alpha = 0.8$.

Задача S-34.28.

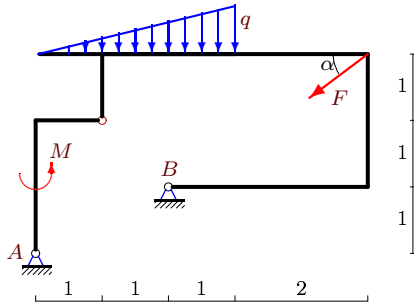
7



$q = 2 \text{ кН/м}$, $F = 15 \text{ кН}$,
 $M = 24 \text{ кНм}$, $\cos \alpha = 0.8$.

Задача S-34.29.

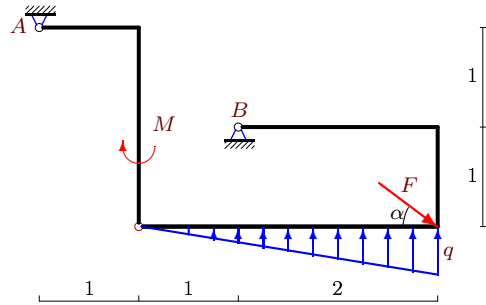
7



$q = 2 \text{ кН/м}$, $F = 20 \text{ кН}$,
 $M = 53 \text{ кНм}$, $\cos \alpha = 0.8$.

Задача S-34.30.

7



$q = 6 \text{ кН/м}$, $F = 5 \text{ кН}$,
 $M = 8 \text{ кНм}$, $\cos \alpha = 0.8$.

Составная рама с линейно распределенной нагрузкой12.02.2015

№	X_A	Y_A	X_B	Y_B
1	-9	-2	17	-7
2	8	-23	-20	11
3	19	4	-31	11
4	-10	0	14	-9
5	3	-5	-11	2
6	-2	3	-6	-6
7	-18	-13	26	28
8	6	3	-18	0
9	22	11	-34	-29
10	-1	-9	9	6
11	1	-5	-9	8
12	18	-7	-26	22
13	-3	12	-9	-9
14	8	-17	-4	23
15	-15	10	23	-25
16	-5	-5	17	-1
17	11	9	-19	0
18	8	-4	-12	-2
19	-9	6	21	-3
20	7	-4	-11	10
21	-7	3	15	6
22	-5	-2	17	-1
23	9	-9	-21	3
24	7	-13	1	16
25	-1	15	-7	-15
26	-11	4	15	5
27	-5	-9	13	6
28	-13	-2	25	14
29	-19	15	35	0
30	-5	2	1	-8

S-34 файл о34s7A