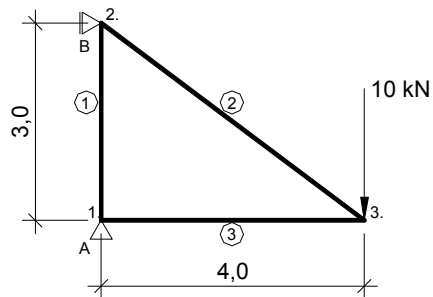


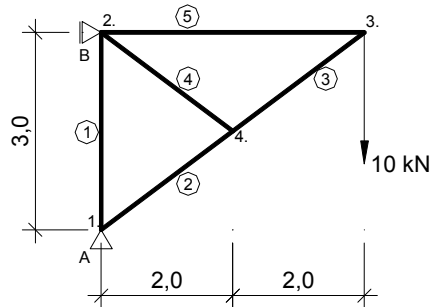
Oefenopgaven week 1

Bereken de staafkrachten m.b.v. de knooppuntsevenwicht methode voor opgave 1.1 t/m 1.8.

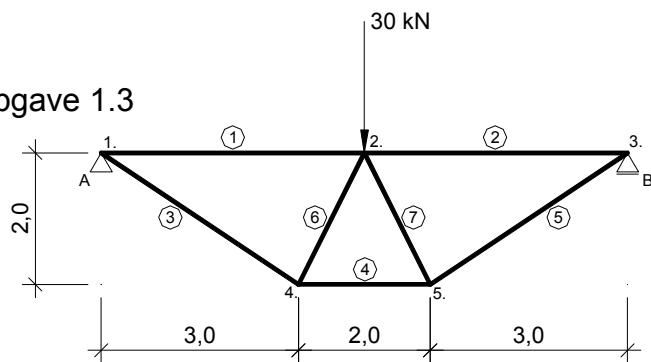
Opgave 1.1



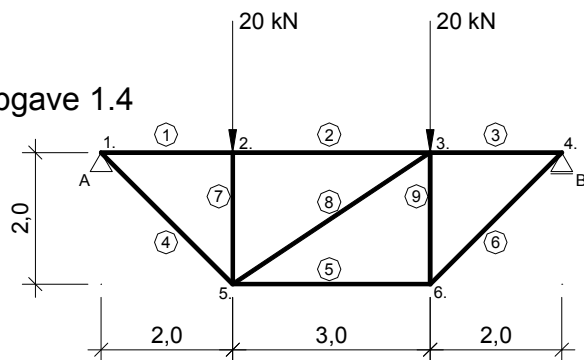
Opgave 1.2



Opgave 1.3

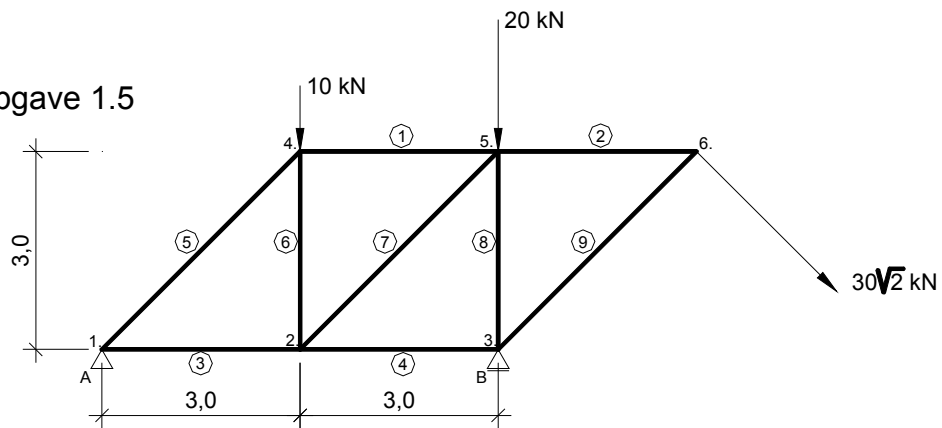


Opgave 1.4

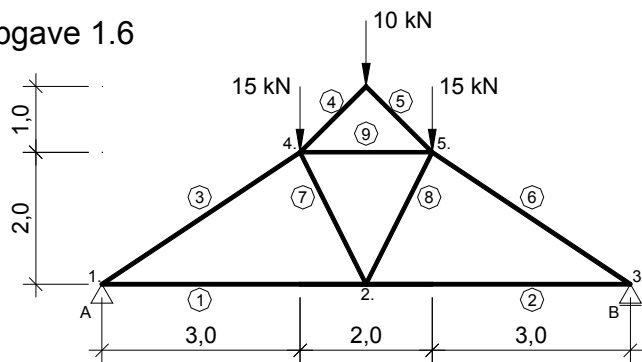


Oefenopgaven week 1

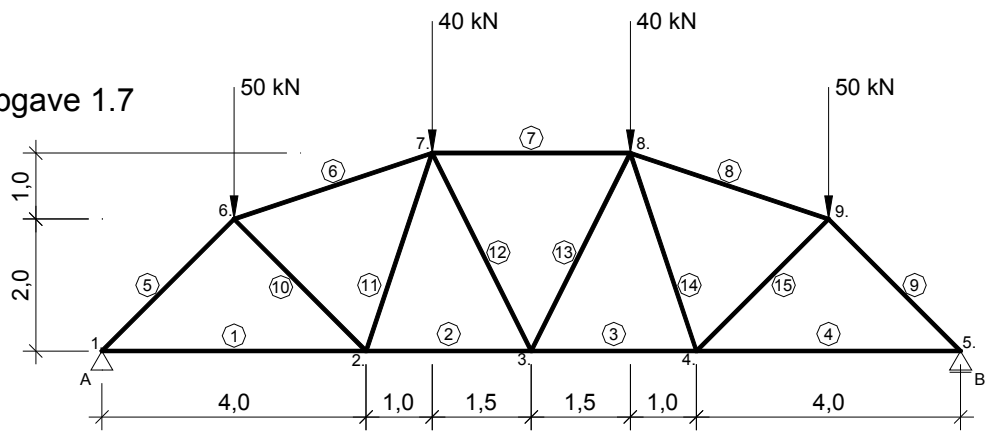
Opgave 1.5



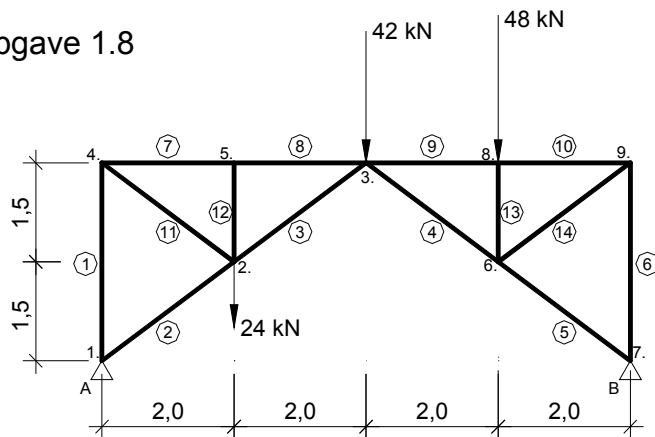
Opgave 1.6



Opgave 1.7



Opgave 1.8



Oefenopgaven week 1

Opgave 1.1

$$\begin{aligned}F_{v;A} &= 10,0 \text{ kN} \\F_{h;A} &= 13,3 \text{ kN} \\F_{v;B} &= 0,0 \text{ kN} \\F_{h;B} &= -13,3 \text{ kN}\end{aligned}$$

staaf	kracht (kN)
1	-10,0
2	16,7
3	-13,3

Opgave 1.2

$$\begin{aligned}F_{v;A} &= 10,0 \text{ kN} \\F_{h;A} &= 13,3 \text{ kN} \\F_{v;B} &= 0,0 \text{ kN} \\F_{h;B} &= -13,3 \text{ kN}\end{aligned}$$

staaf	Kracht (kN)
1	0,0
2	-16,7
3	-16,7
4	0,0
5	13,3

Opgave 1.3

$$\begin{aligned}F_{v;A} &= 15,0 \text{ kN} \\F_{h;A} &= 0,0 \text{ kN} \\F_{v;B} &= 15,0 \text{ kN} \\F_{h;B} &= 0,0 \text{ kN}\end{aligned}$$

staaf	Kracht (kN)
1	-22,5
2	-22,5
3	27,0
4	30,0
5	27,0
6	-16,7
7	-16,7

Opgave 1.4

$$\begin{aligned}F_{v;A} &= \\F_{h;A} &= \\F_{v;B} &= \\F_{h;B} &= \end{aligned}$$

staaf	kracht (kN)
1	-20,0
2	-20,0
3	-20,0
4	28,3
5	20,0
6	28,3
7	-20,0
8	0,0
9	-20,0

Opgave 1.5

$$\begin{aligned}F_{v;A} &= -25,0 \text{ kN} \\F_{h;A} &= -30,0 \text{ kN} \\F_{v;B} &= 85,0 \text{ kN} \\F_{h;B} &= 0,0 \text{ kN}\end{aligned}$$

staaf	kracht (kN)
1	25,0
2	60,0
3	5,0
4	-30,0
5	35,4
6	-35,0
7	49,5
8	-55,0
9	-42,4

Opgave 1.6

$$\begin{aligned}F_{v;A} &= 20,0 \text{ kN} \\F_{h;A} &= 0,0 \text{ kN} \\F_{v;B} &= 20,0 \text{ kN} \\F_{h;B} &= 0,0 \text{ kN}\end{aligned}$$

staaf	Kracht (kN)
1	30,0
2	30,0
3	-36,1
4	-7,1
5	-7,1
6	-36,1
7	0,0
8	0,0
9	-25,0

Oefenopgaven week 1

Opgave 1.7

$$F_{v;A} = 90,0 \text{ kN}$$

$$F_{h;A} = 0,0 \text{ kN}$$

$$F_{v;B} = 90,0 \text{ kN}$$

$$F_{h;B} = 0,0 \text{ kN}$$

staaf	kracht (kN)
1	90,0
2	100,0
3	100,0
4	90,0
5	-127,3
6	-102,8
7	-100,0
8	-102,8
9	-127,3
10	-10,6
11	-7,9
12	0
13	0
14	-7,9
15	10,6

Opgave 1.8

$$F_{v;A} = 51,0 \text{ kN}$$

$$F_{h;A} = 52,0 \text{ kN}$$

$$F_{v;B} = 63,0 \text{ kN}$$

$$F_{h;B} = -52,0 \text{ kN}$$

staaf	kracht (kN)
1	-12,0
2	-65,0
3	-45,0
4	-25,0
5	-65,0
6	-24,0
7	-16,0
8	-16,0
9	-32,0
10	-32,0
11	20,0
12	0,0
13	-48,0
14	40,0