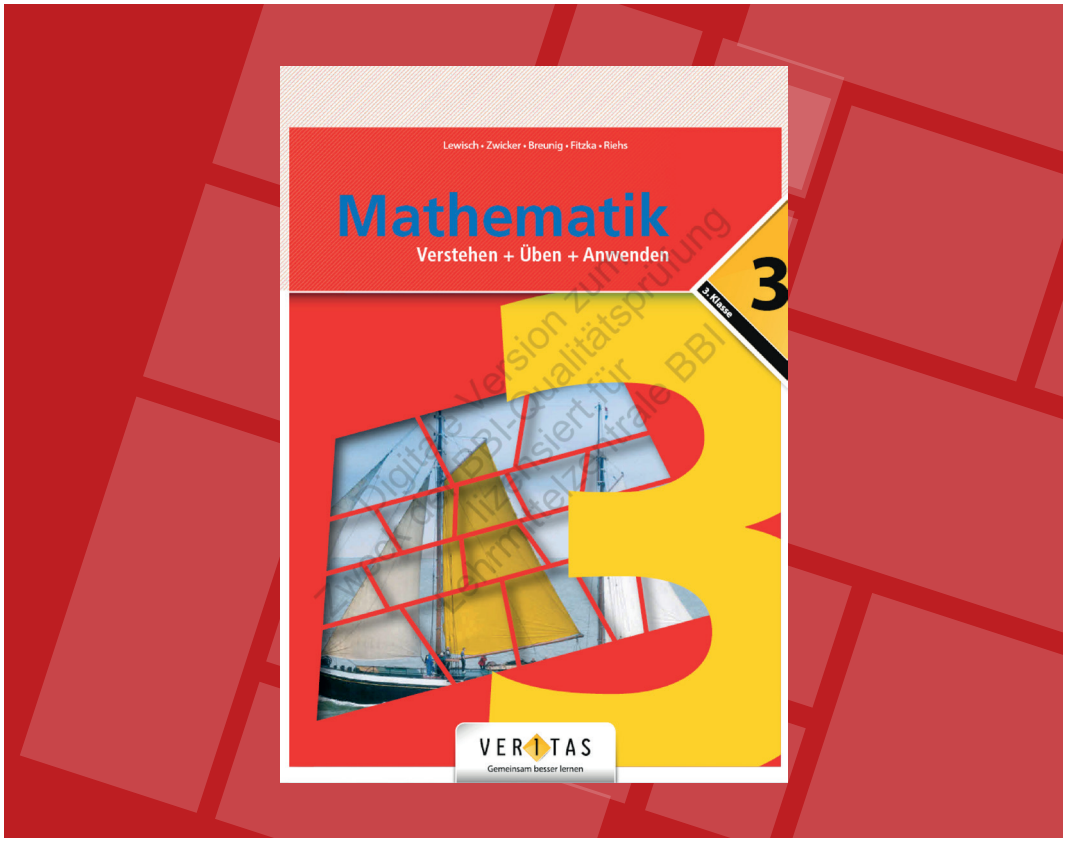
Bundes-
Blindeninstitut
Wien

LeMa
Lehr- und Lernmaterialien

Tastbare Versionen ausgewählter Grafiken aus dem Schulbuch

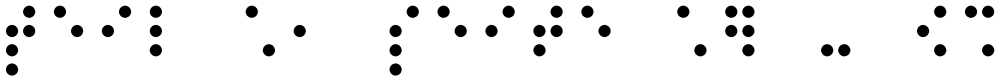
Mathematik

Verstehen + Üben + Anwenden 3



Grafiken: Tomáš Baťha

LEMA - Lehr- und Lernmaterialien
Hergestellt von der Abteilung für Inklusion und Lehrmittel am Bundes-Blindeninstitut Wien,
Wittelsbachstraße 5, 1020 Wien, Tel.: 01/728 08 66-405, 406, lmz@bbi.at, www.bbi.at



Teil 1, Seite 17 - 93

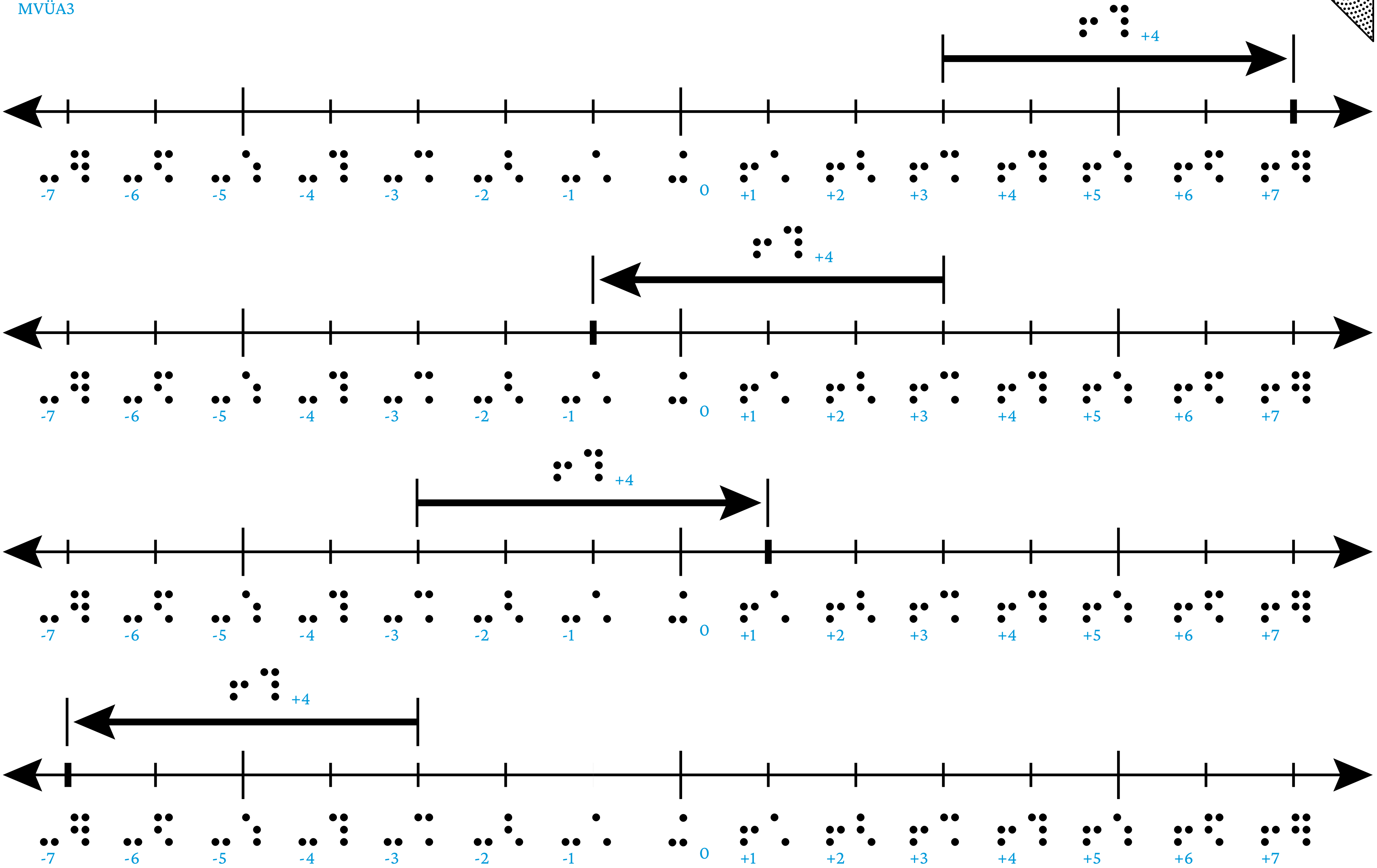
Kontoauszug (EURO)

Datum	Ausgänge	Eingänge
05.03	737,00 -	
06.03	350,00 -	
10.03		1245,00 +
10.03		82,00 +
16.03	578,00 -	
22.03		564,00 +
23.03		200,00 +

Alter Kontostand	163,00 +
Summe Ausgänge	1665,00 -
Summe Eingänge	2091,00 +
Neuer Kontostand	589,00 +

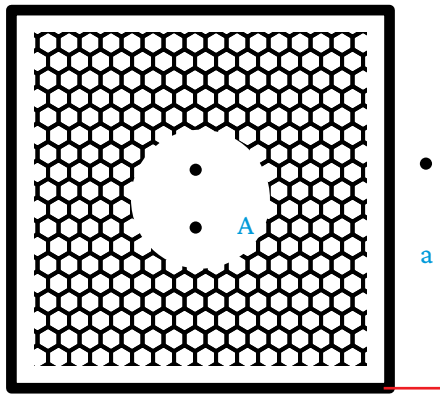
MVÜA3

S.25 Hilfestellungen



Quadrieren

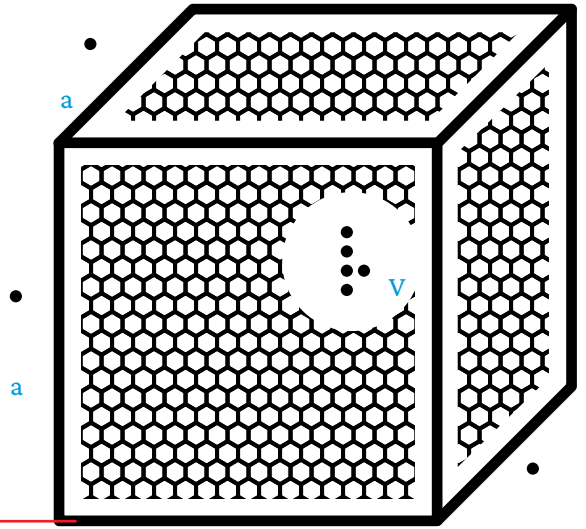
Flächeninhalt eines Quadrats



A =a *a =a^2

Kubieren

Volumen eines Würfels

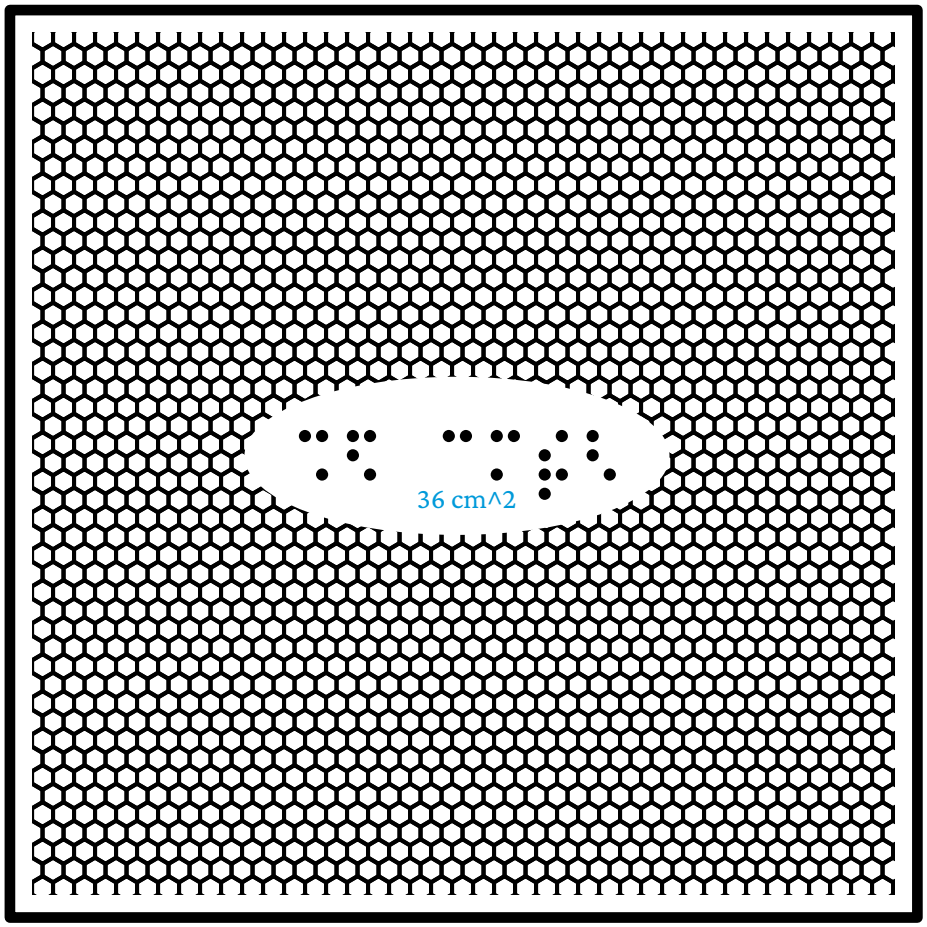


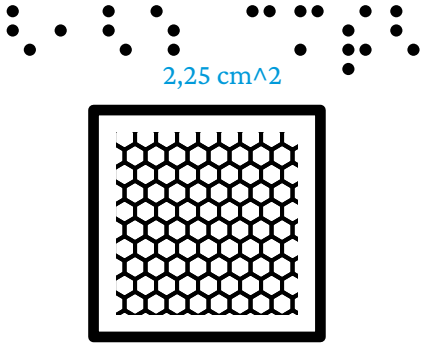
Siehe 3D-Modell

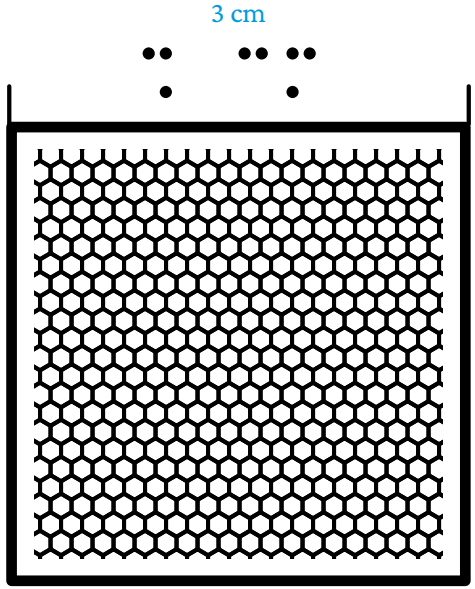
V =a *a *a =a^3

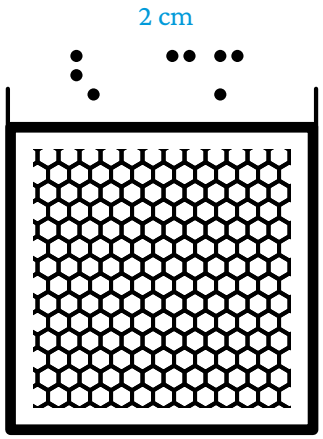
MVÜA3

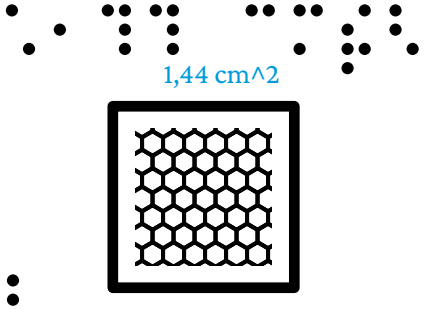
S.55 345

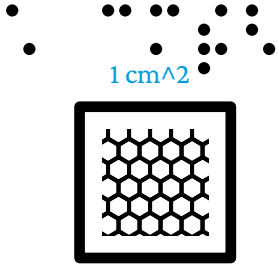


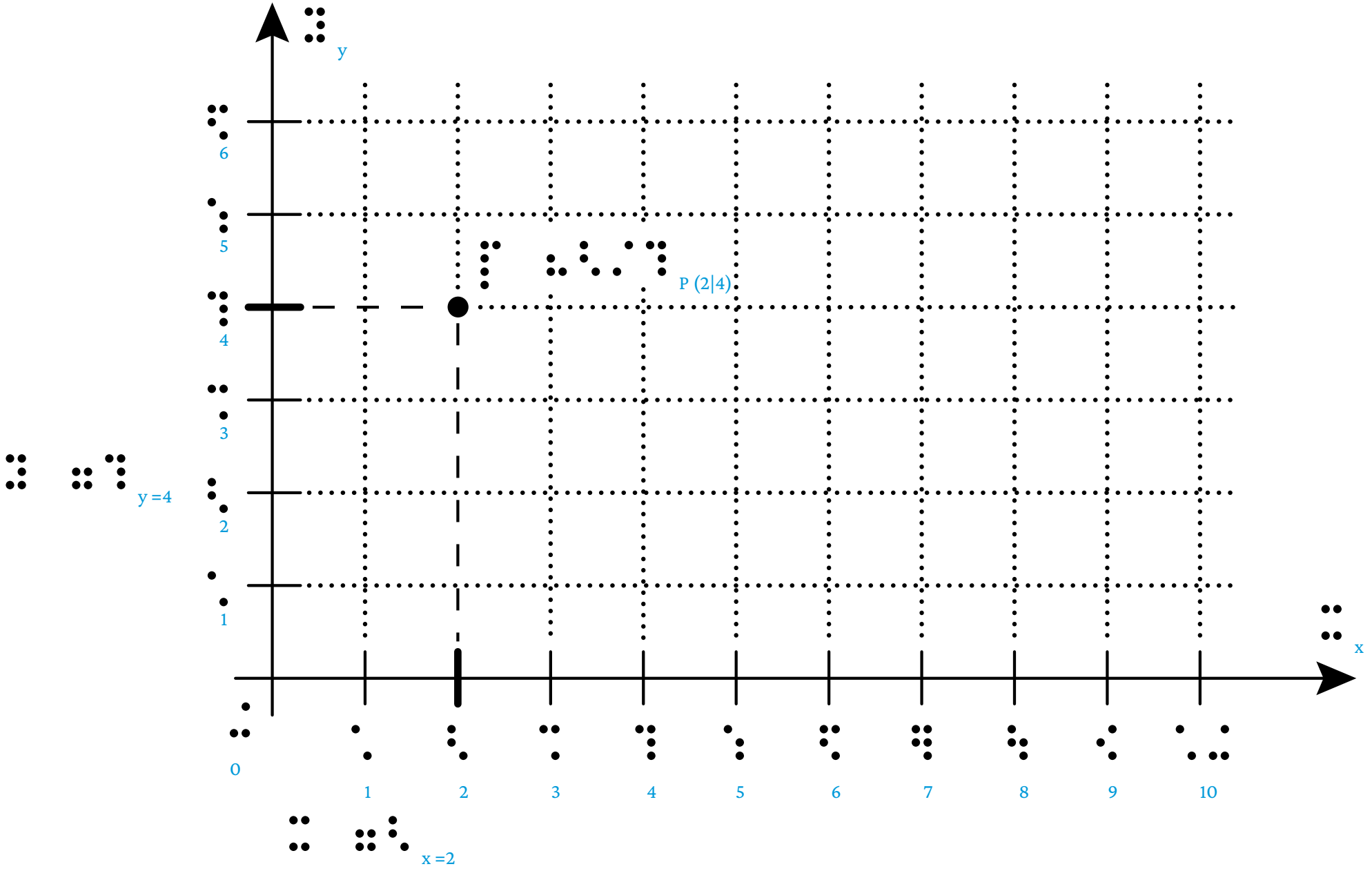






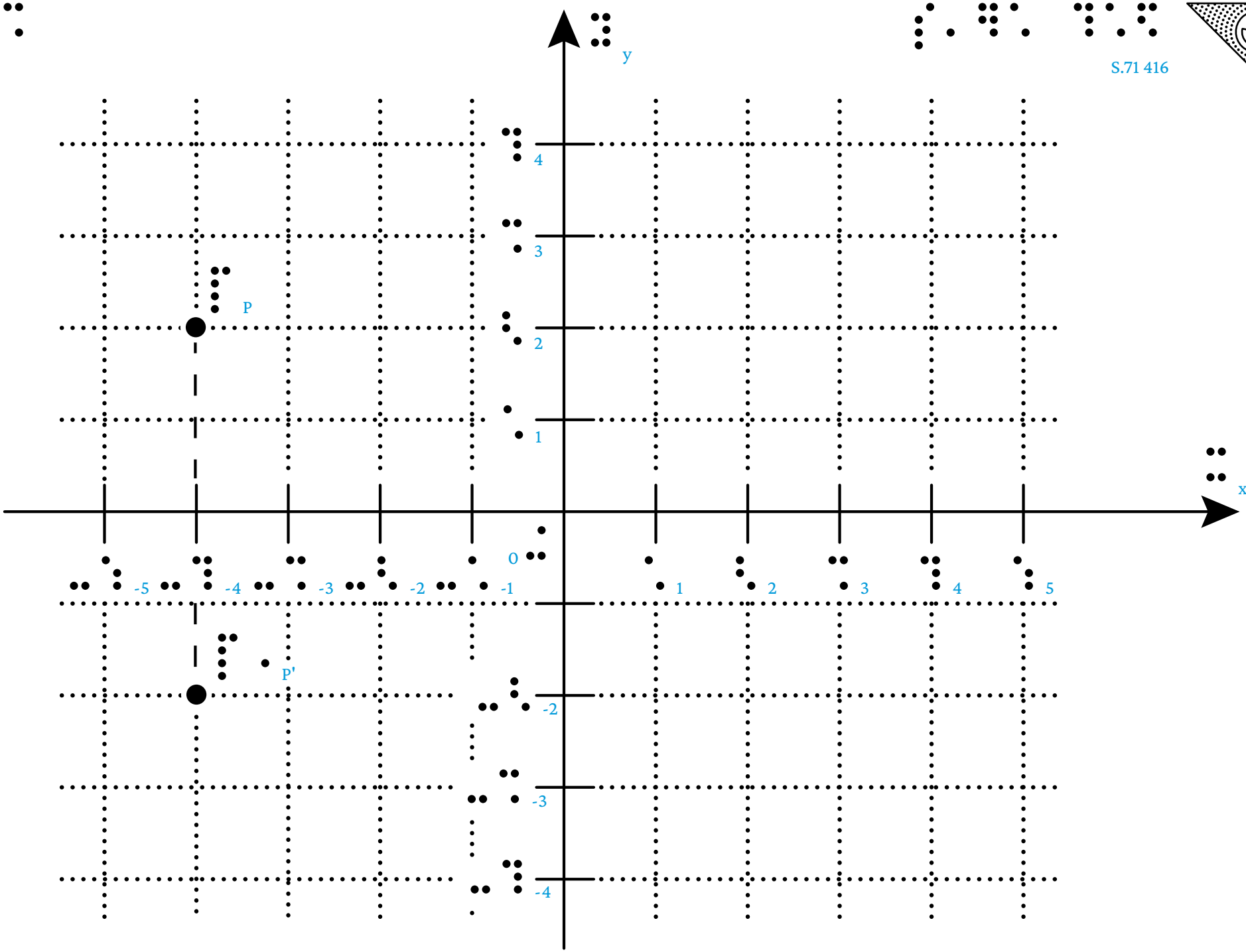





y
6
5
4
3
2
1
P (2|4)
y =4
x
0
1
2
3
4
5
6
7
8
9
10
x =2

MVÜA3

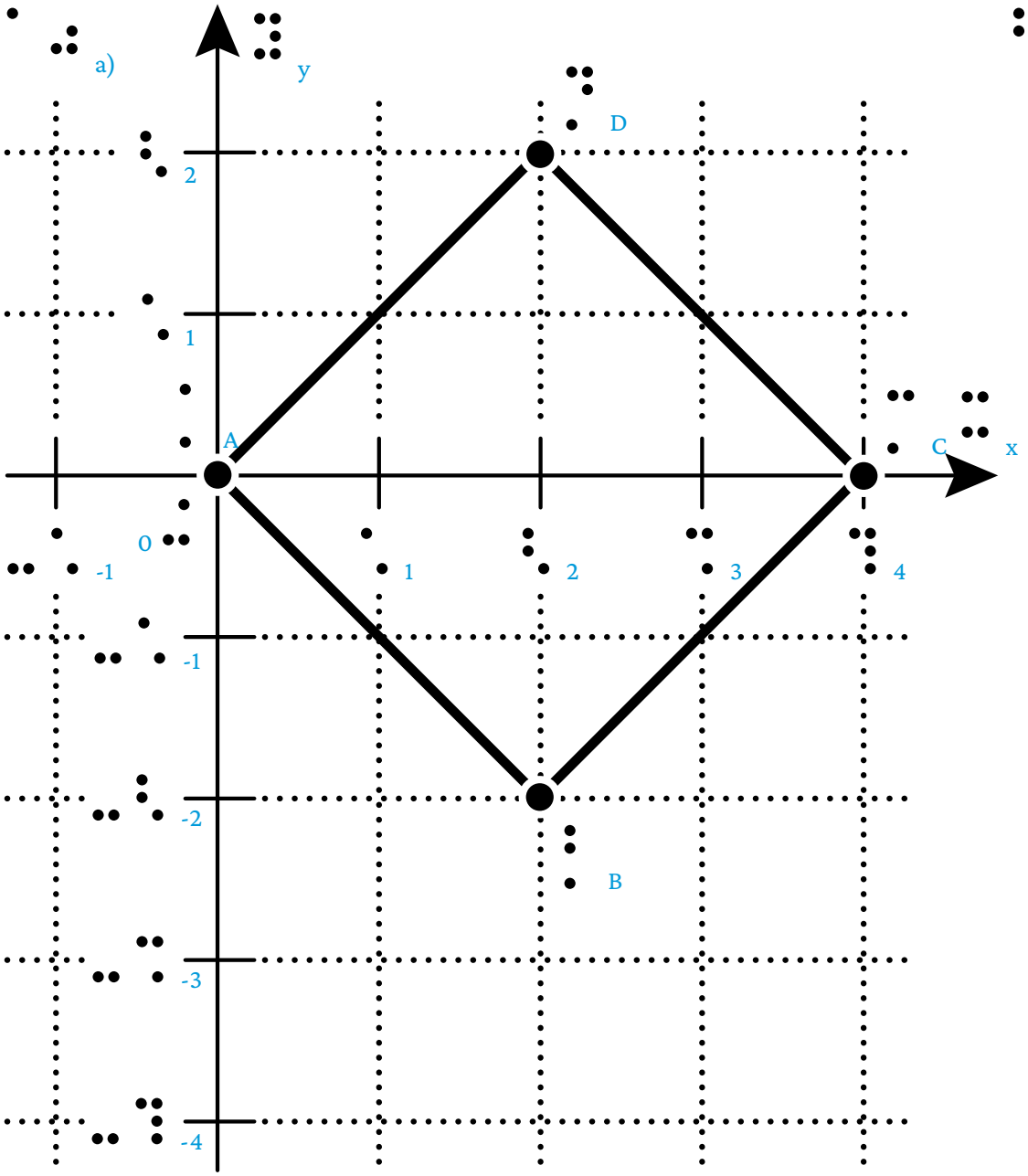
S.71 416



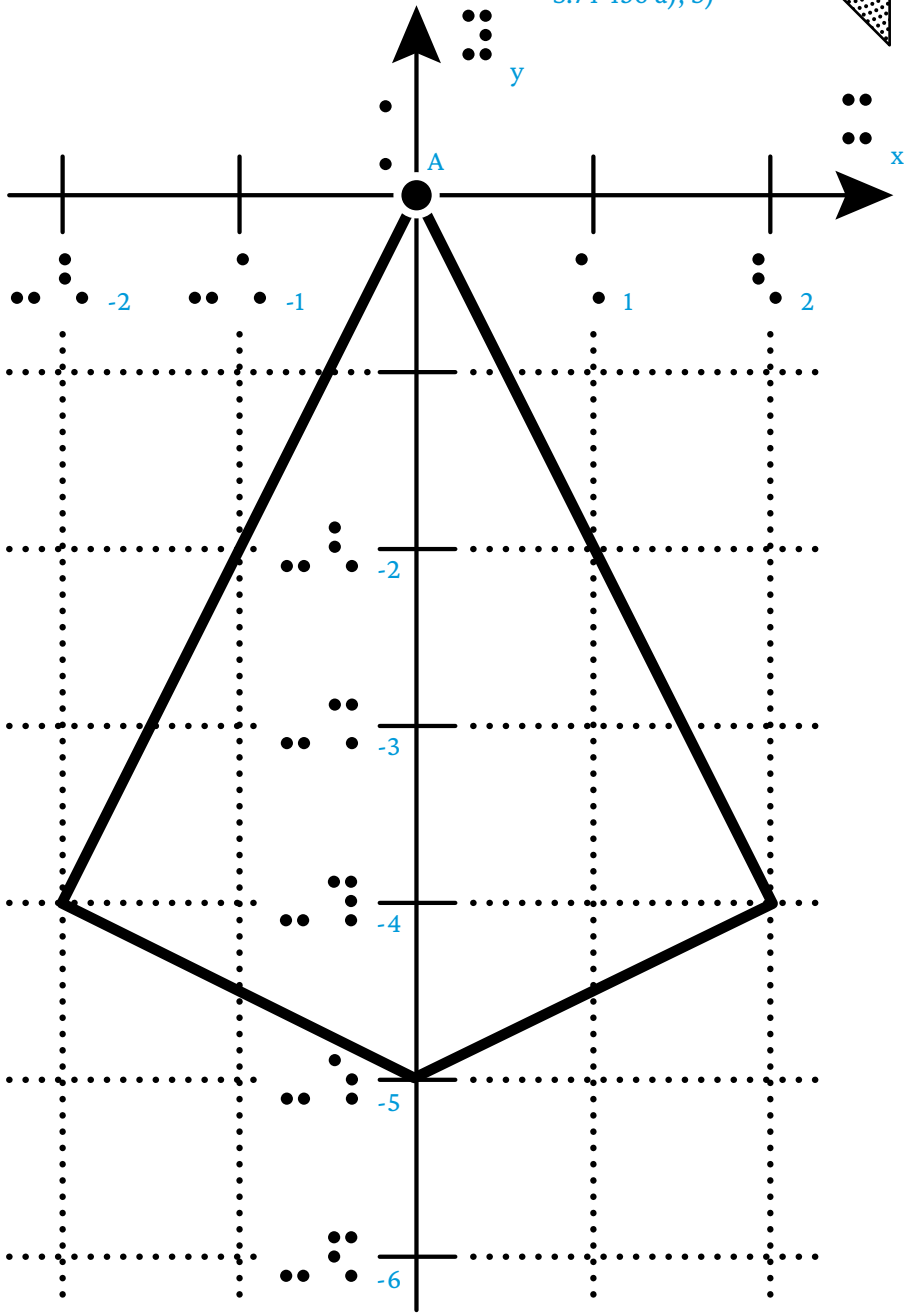
MVÜA3

S.74 436 a), b)

a)



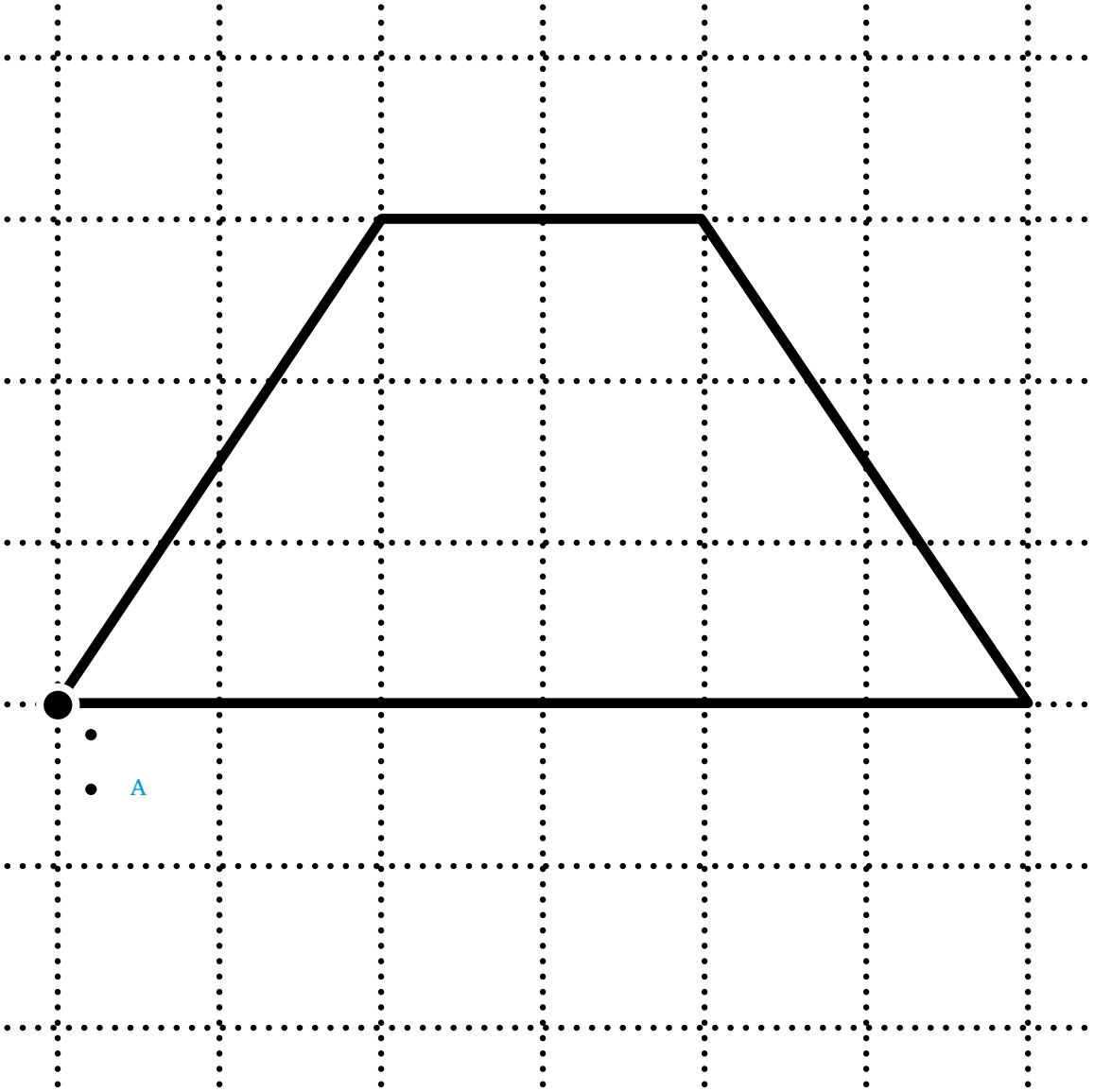
b)



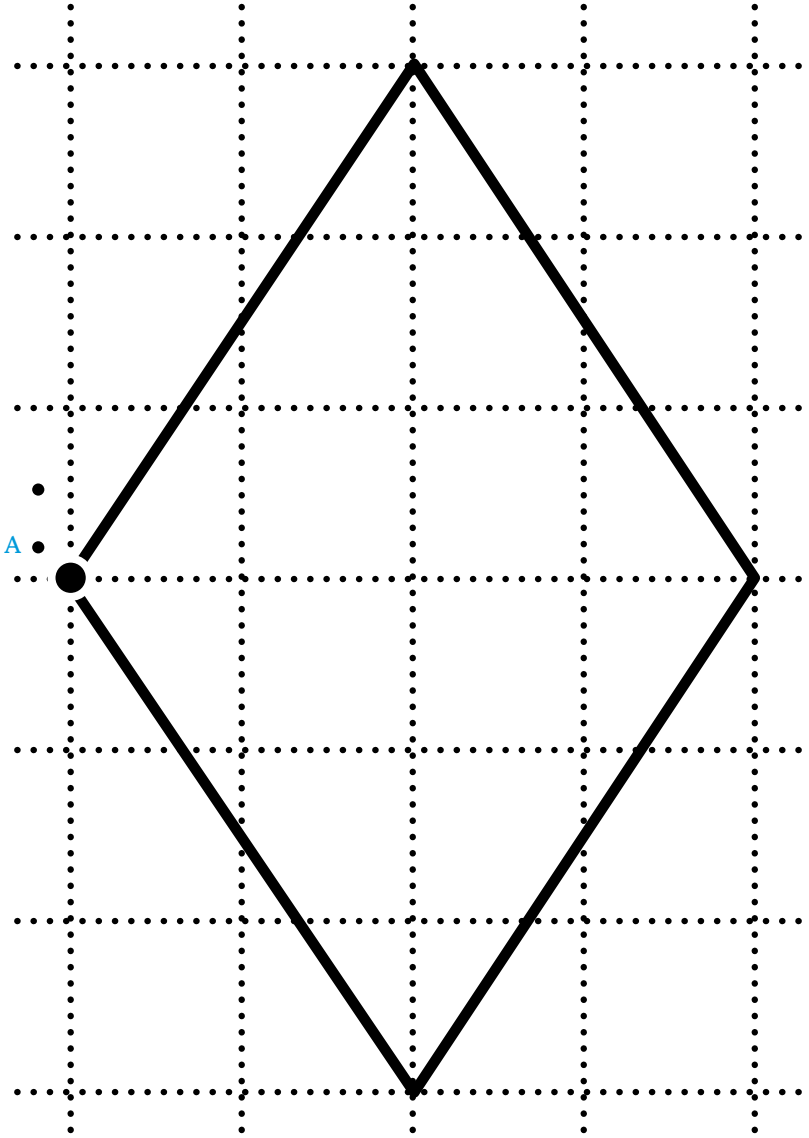
MVÜA3

S.74 436 c), d)

c)

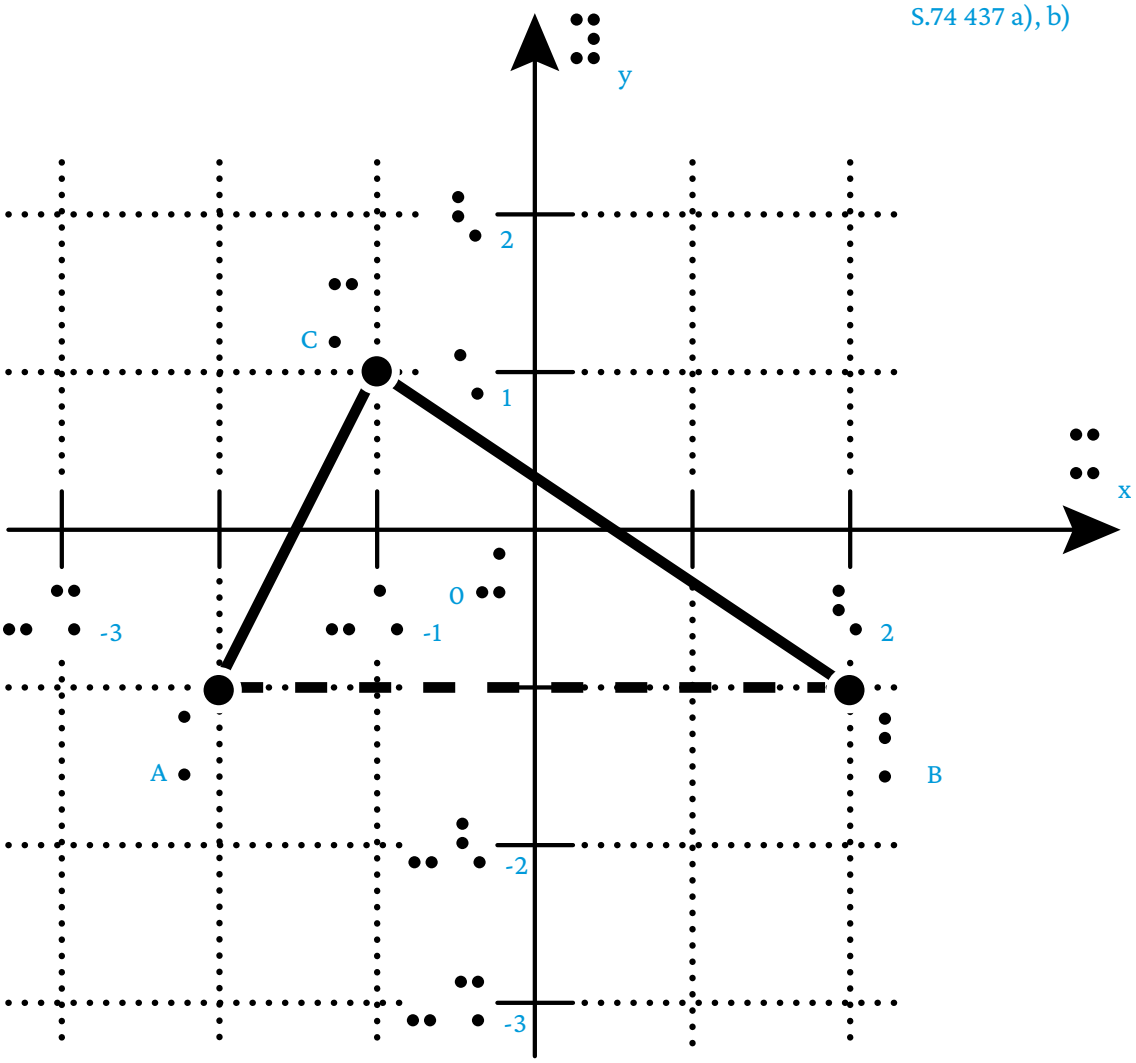


d)



S.74 437 a), b)

a)



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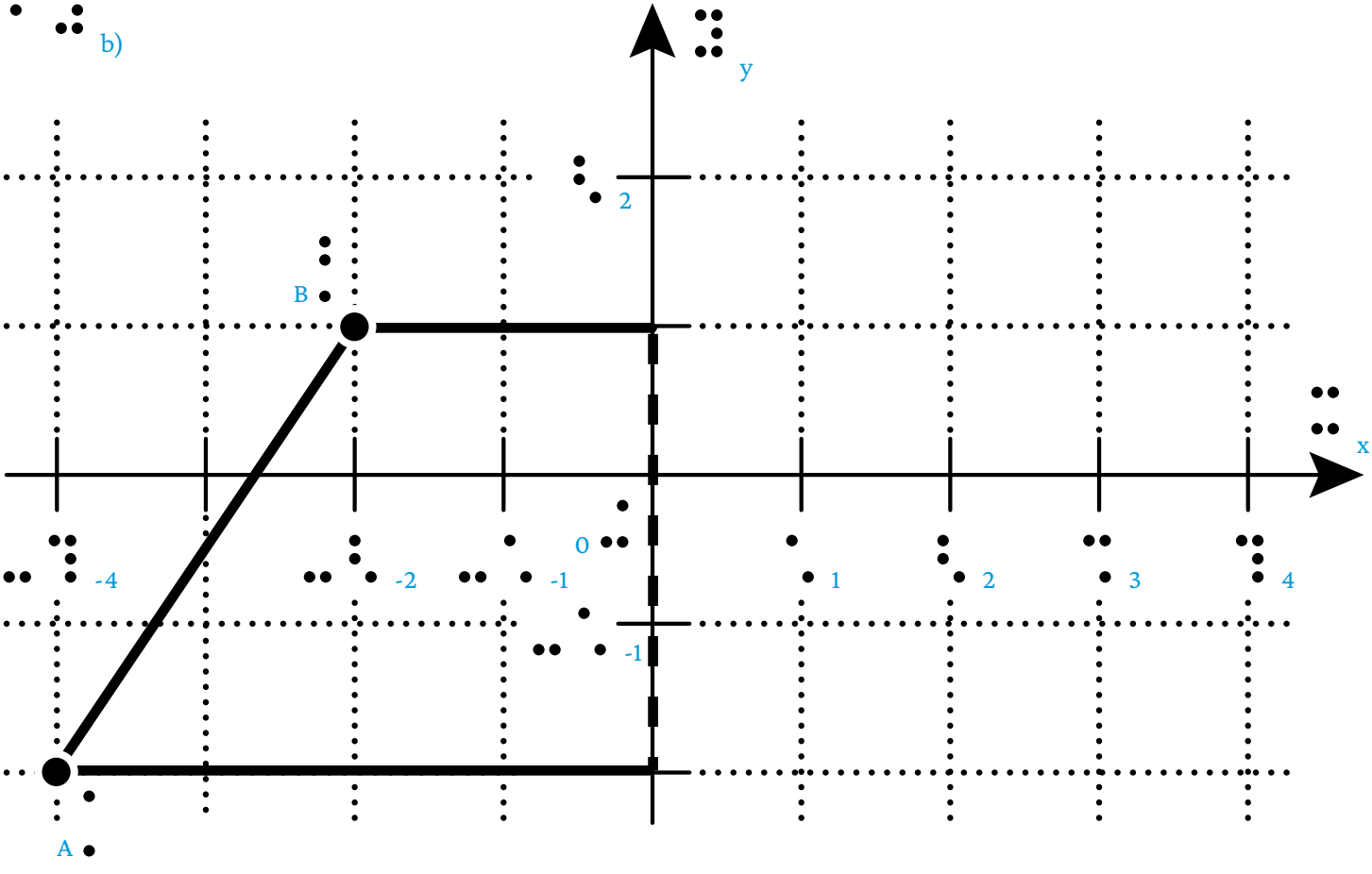

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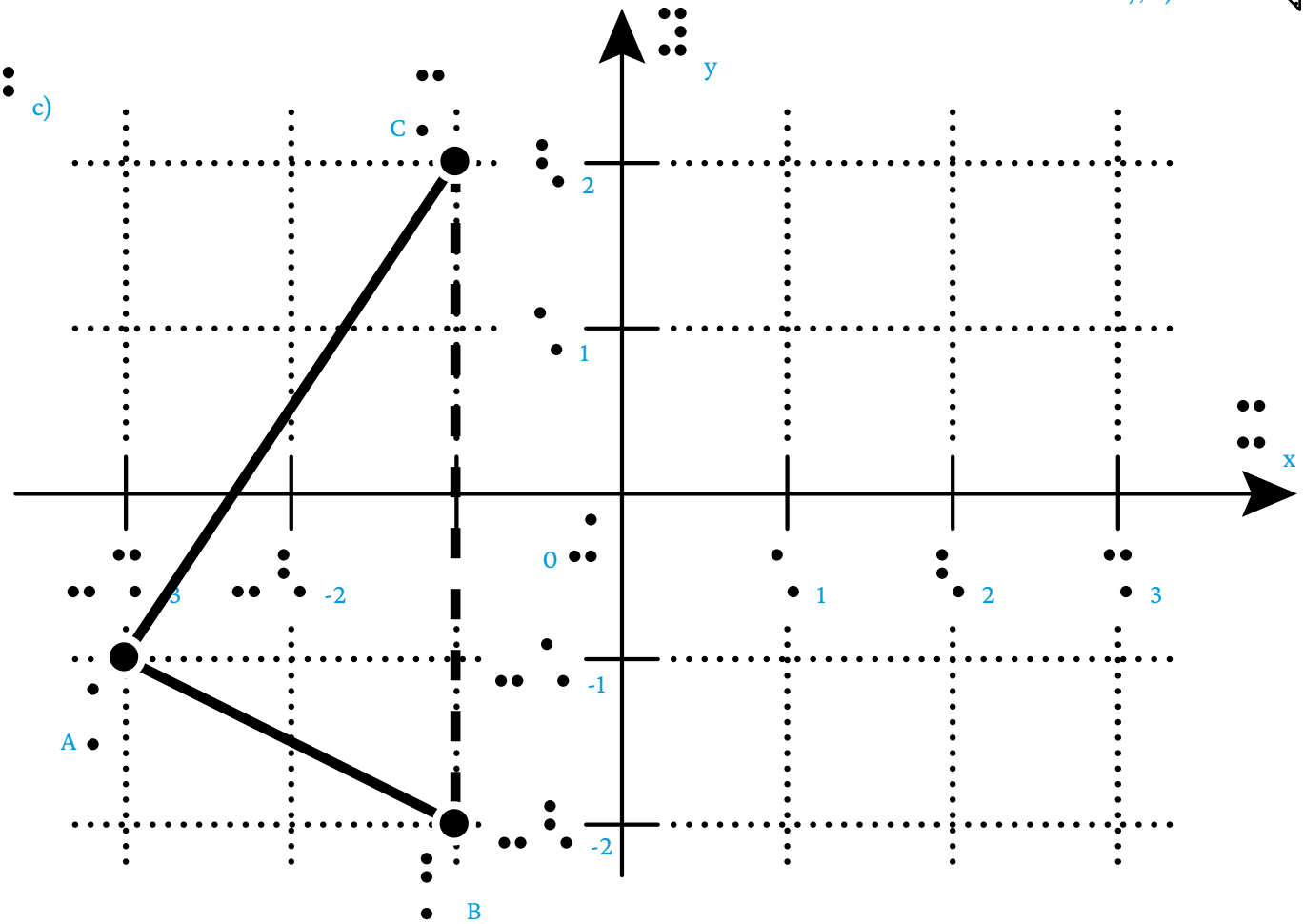

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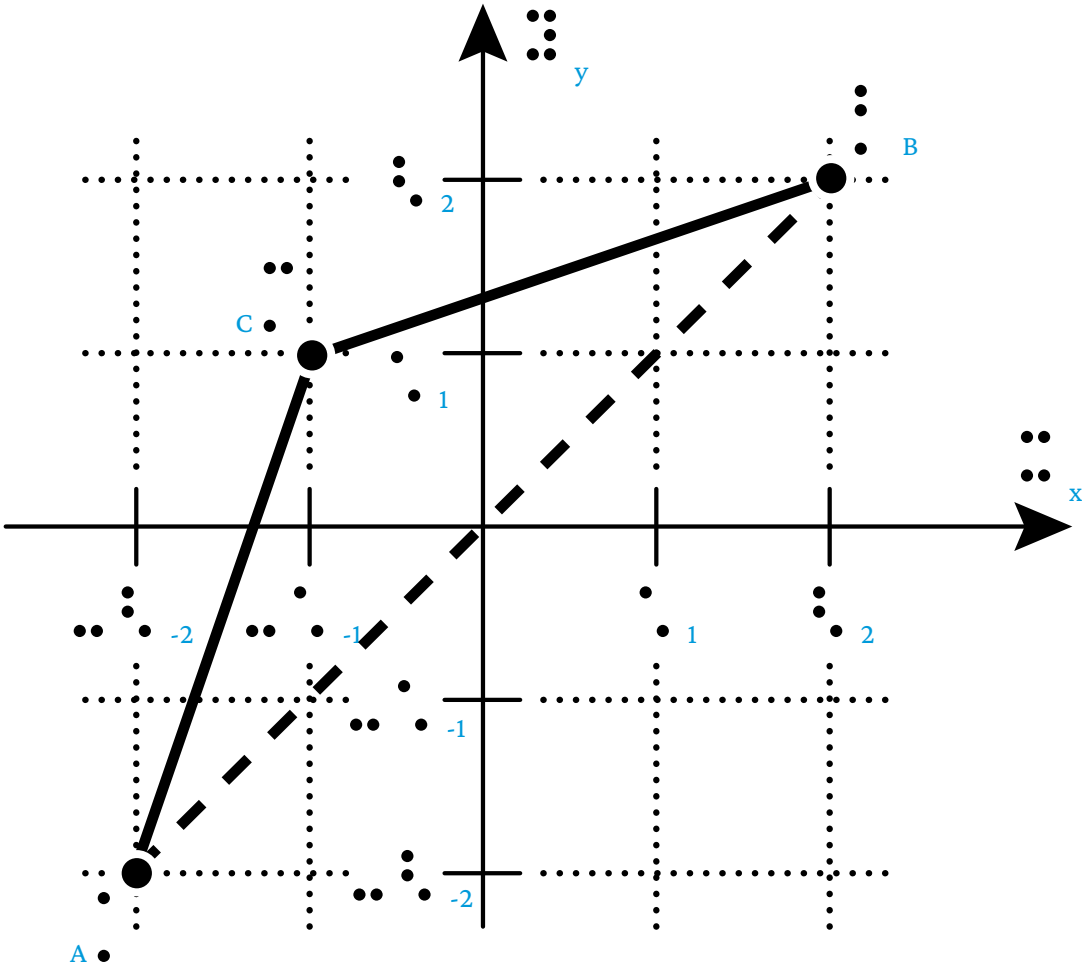
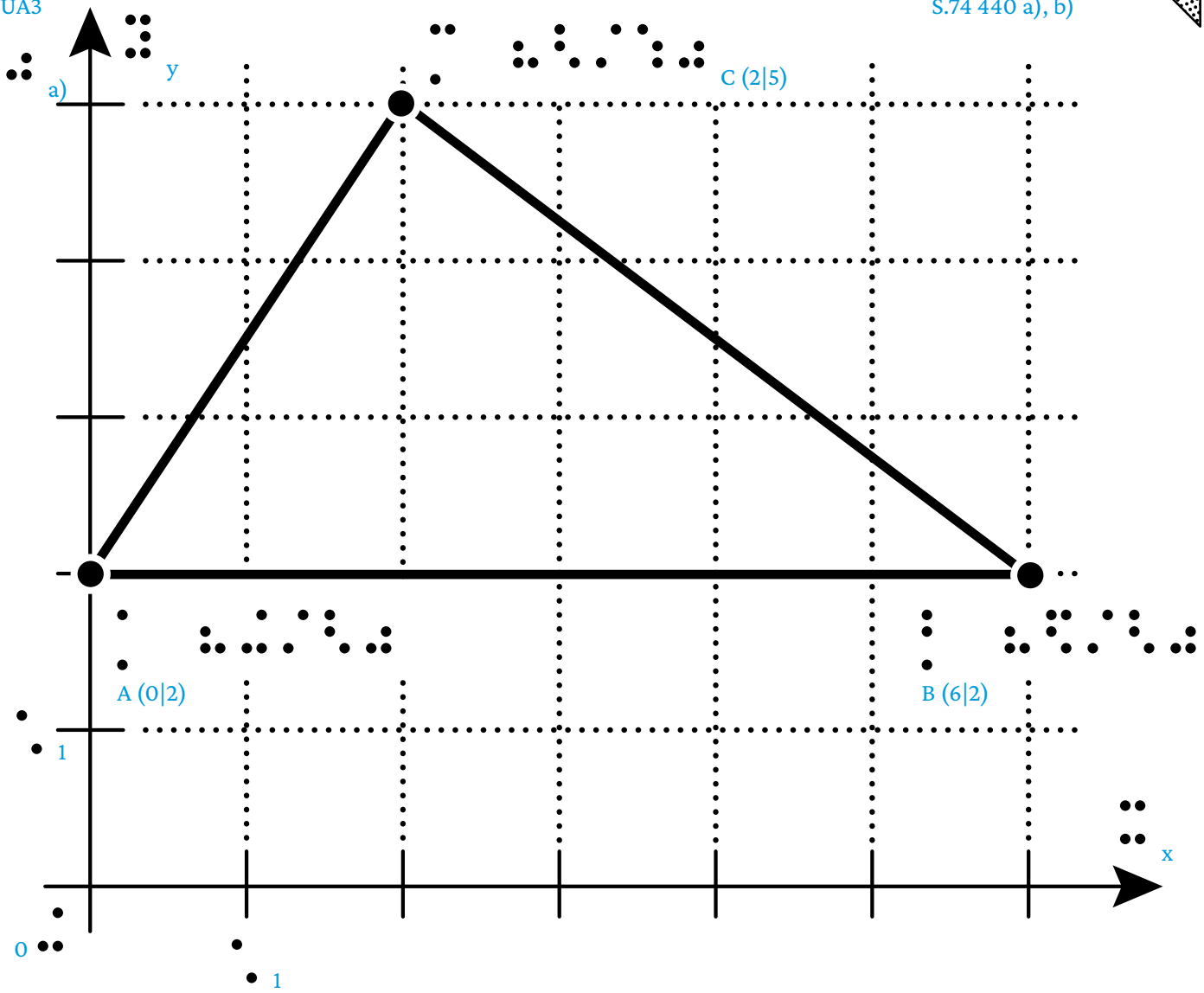


S.74 440 a), b)

a)



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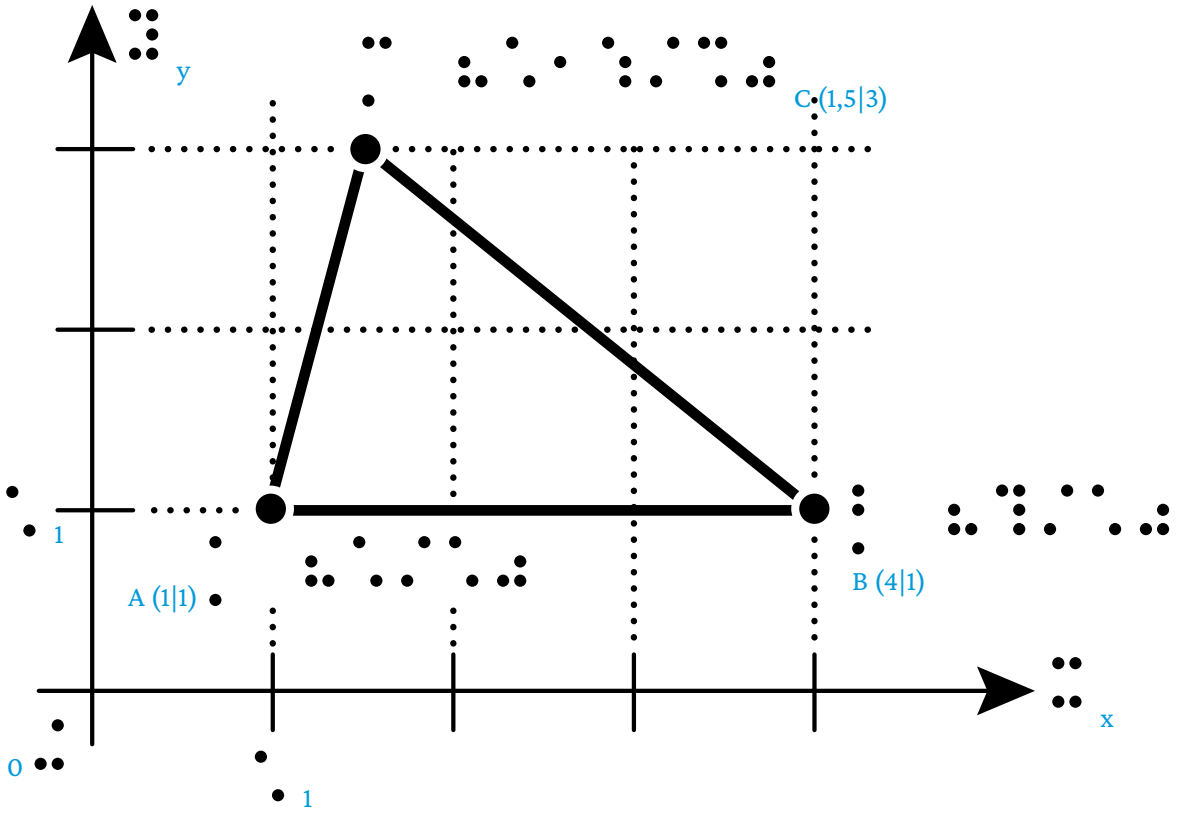
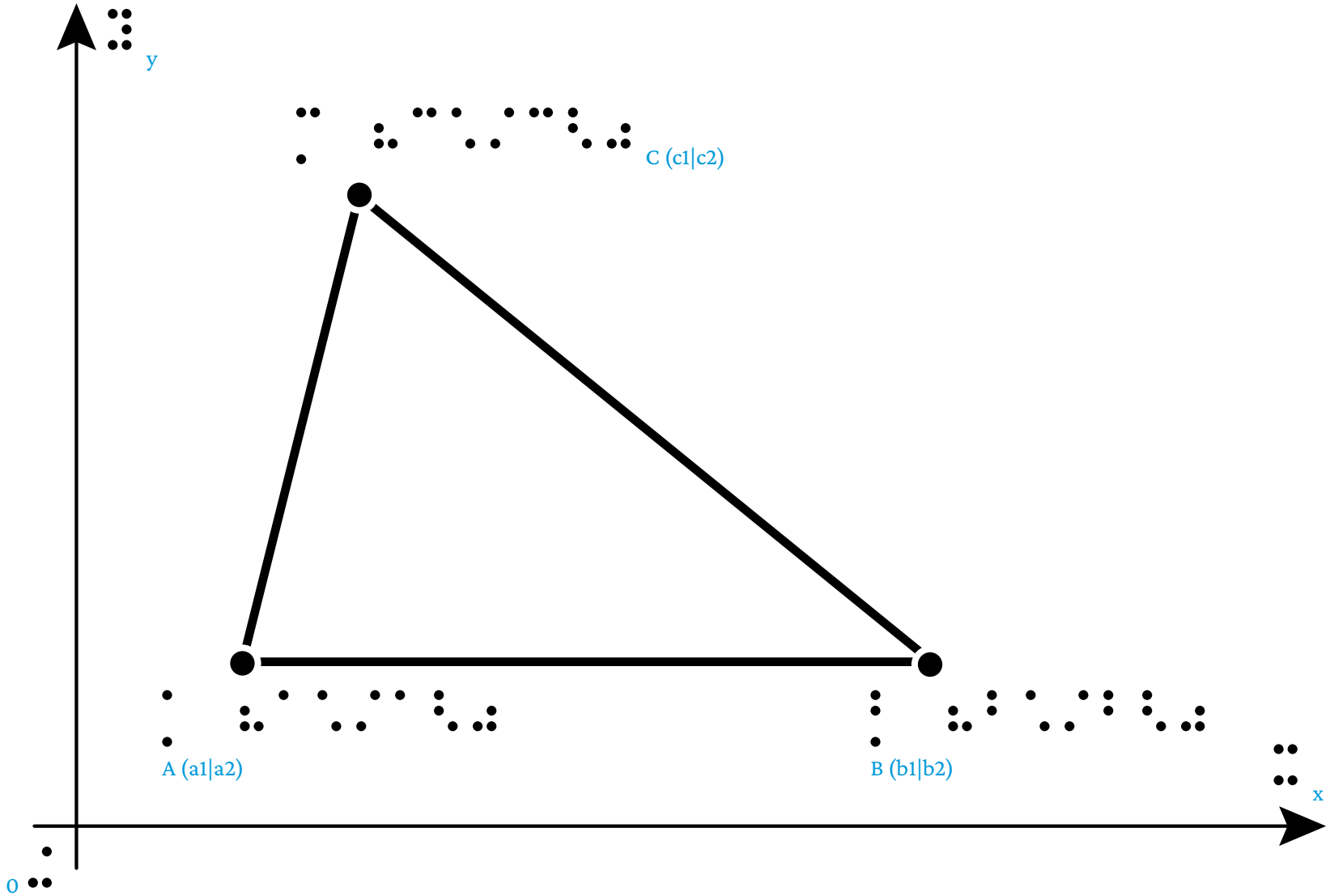
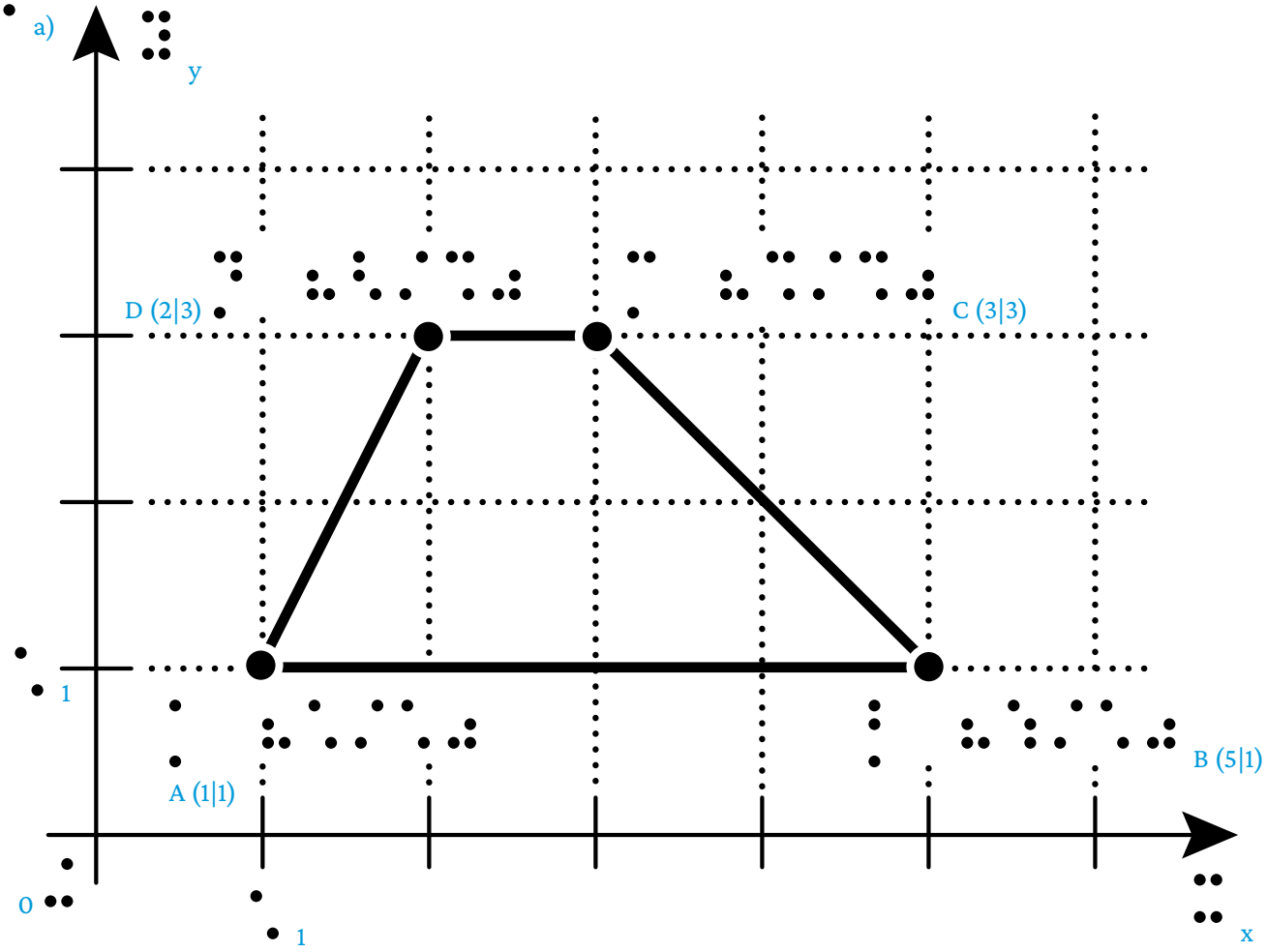



y
C (c1|c2)
A (a1|a2)
B (b1|b2)
x
0

S.75 441 a), b)

a)



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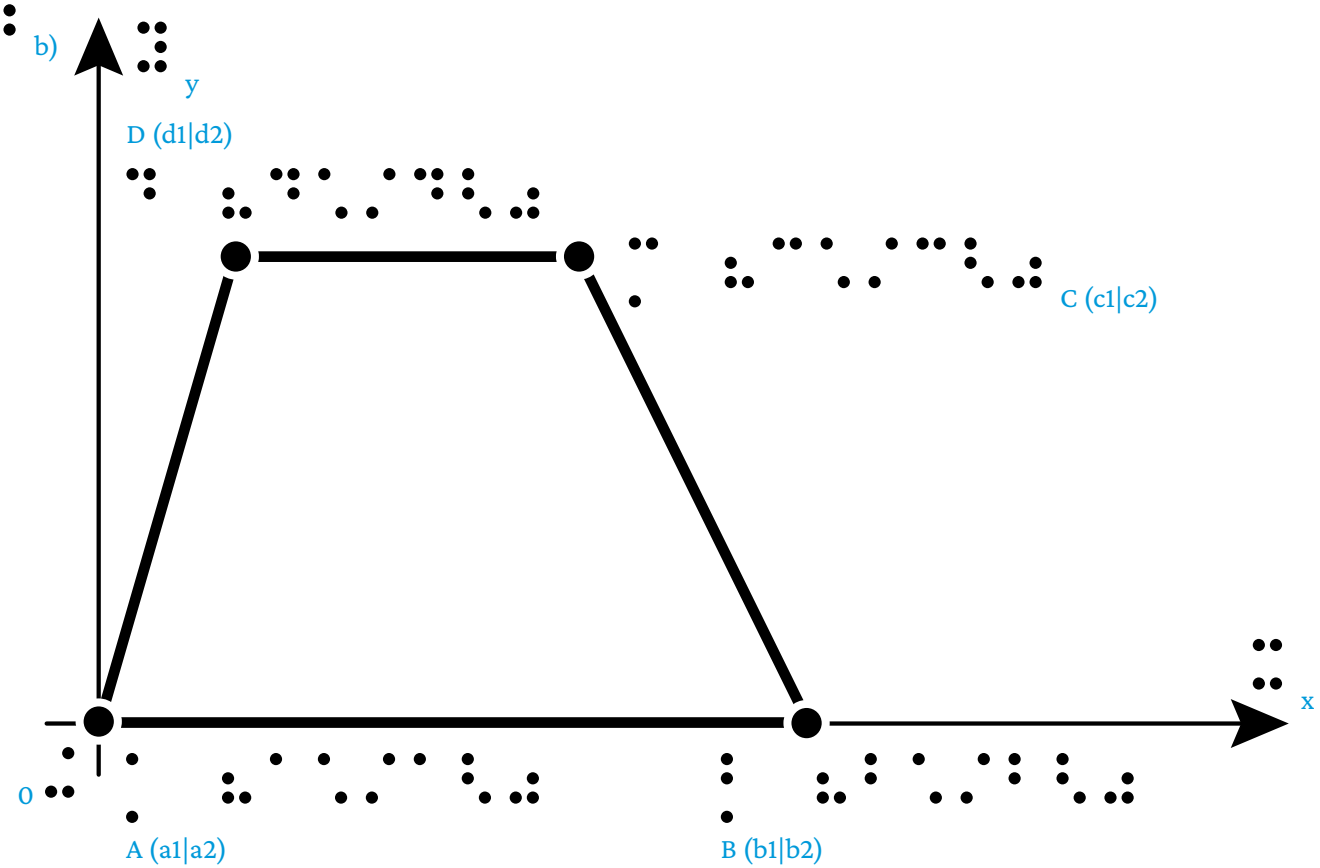
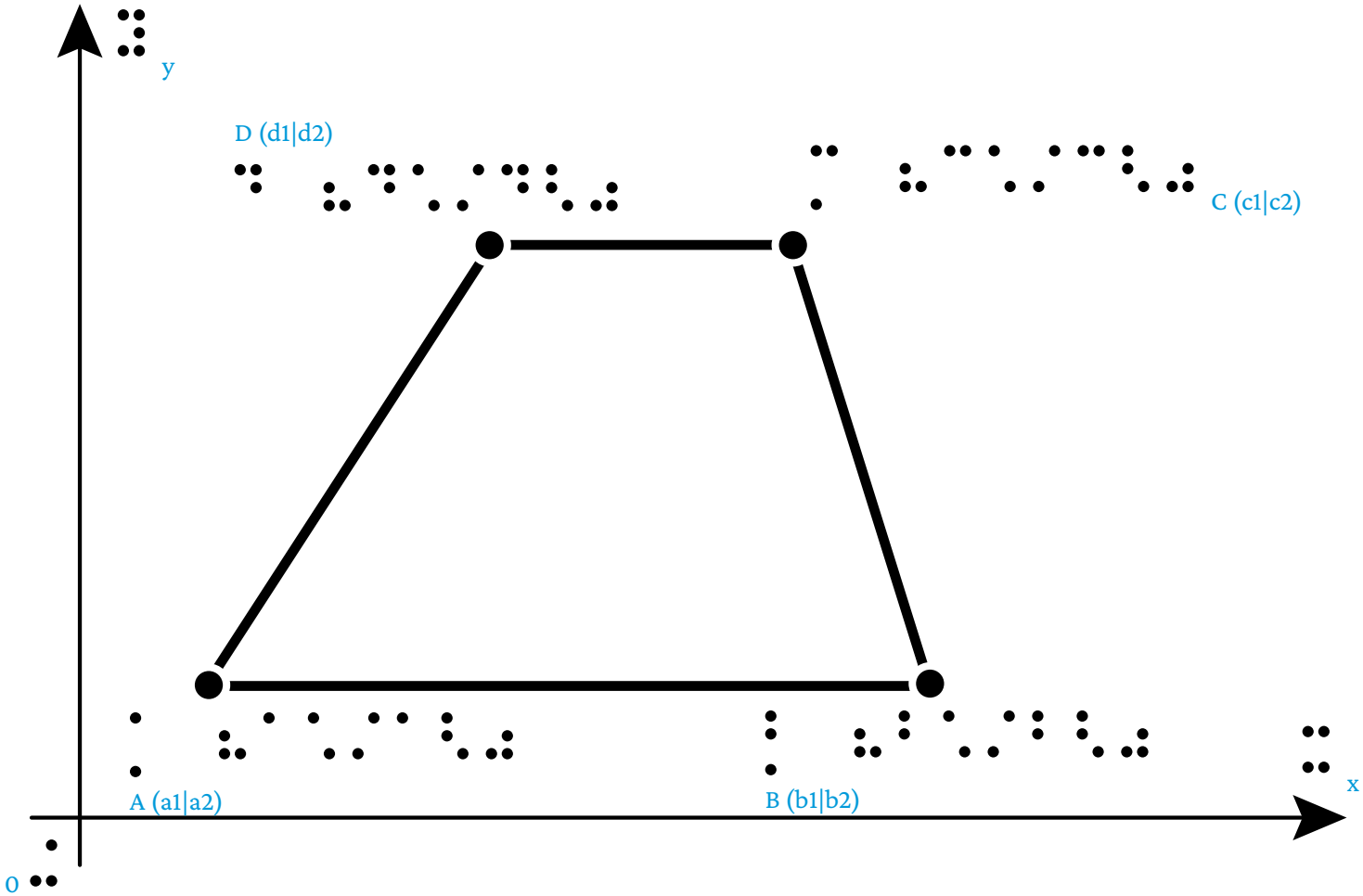
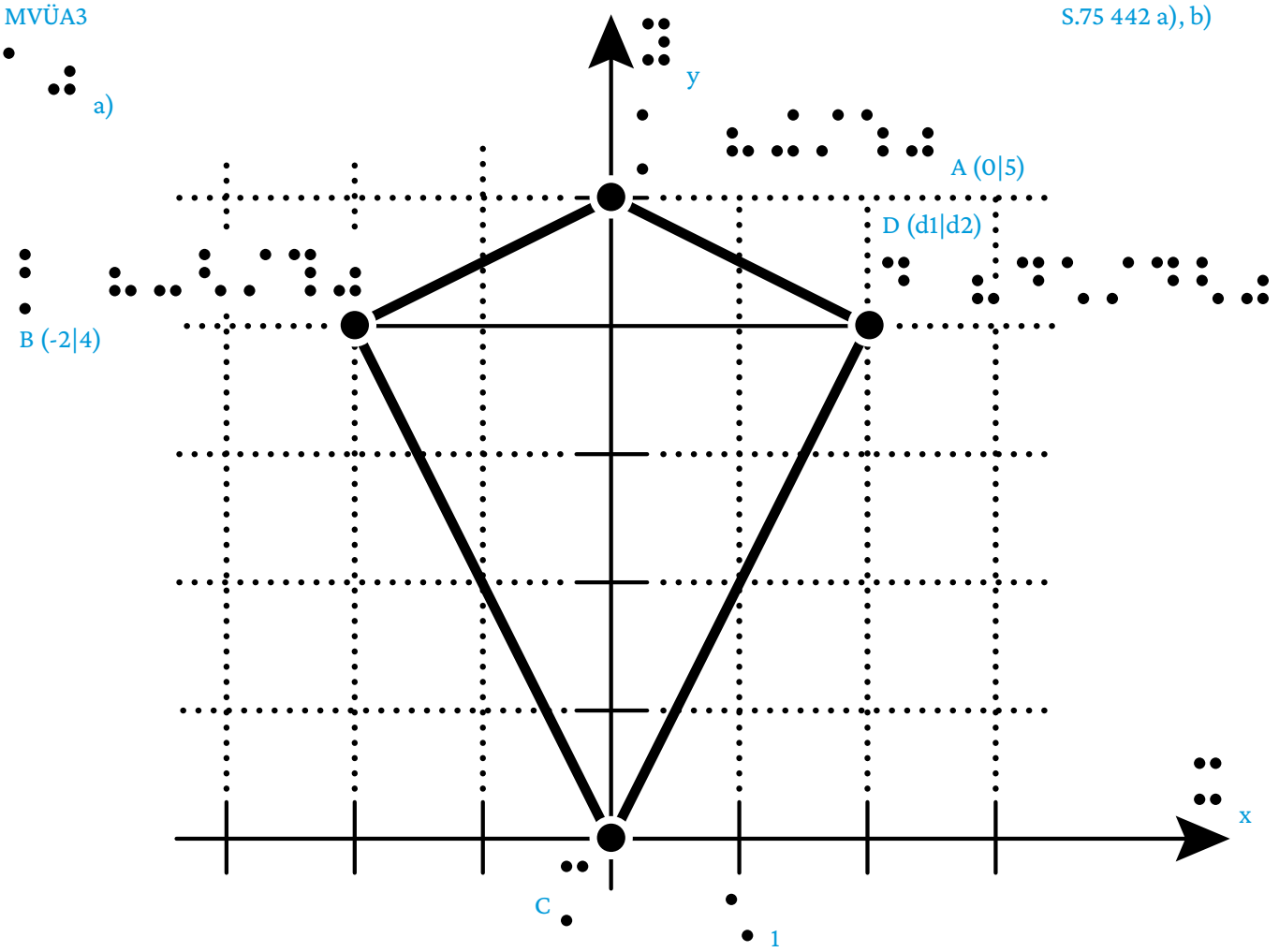



y
D (d1|d2)
C (c1|c2)
A (a1|a2)
B (b1|b2)
x
0

S.75 442 a), b)

a)



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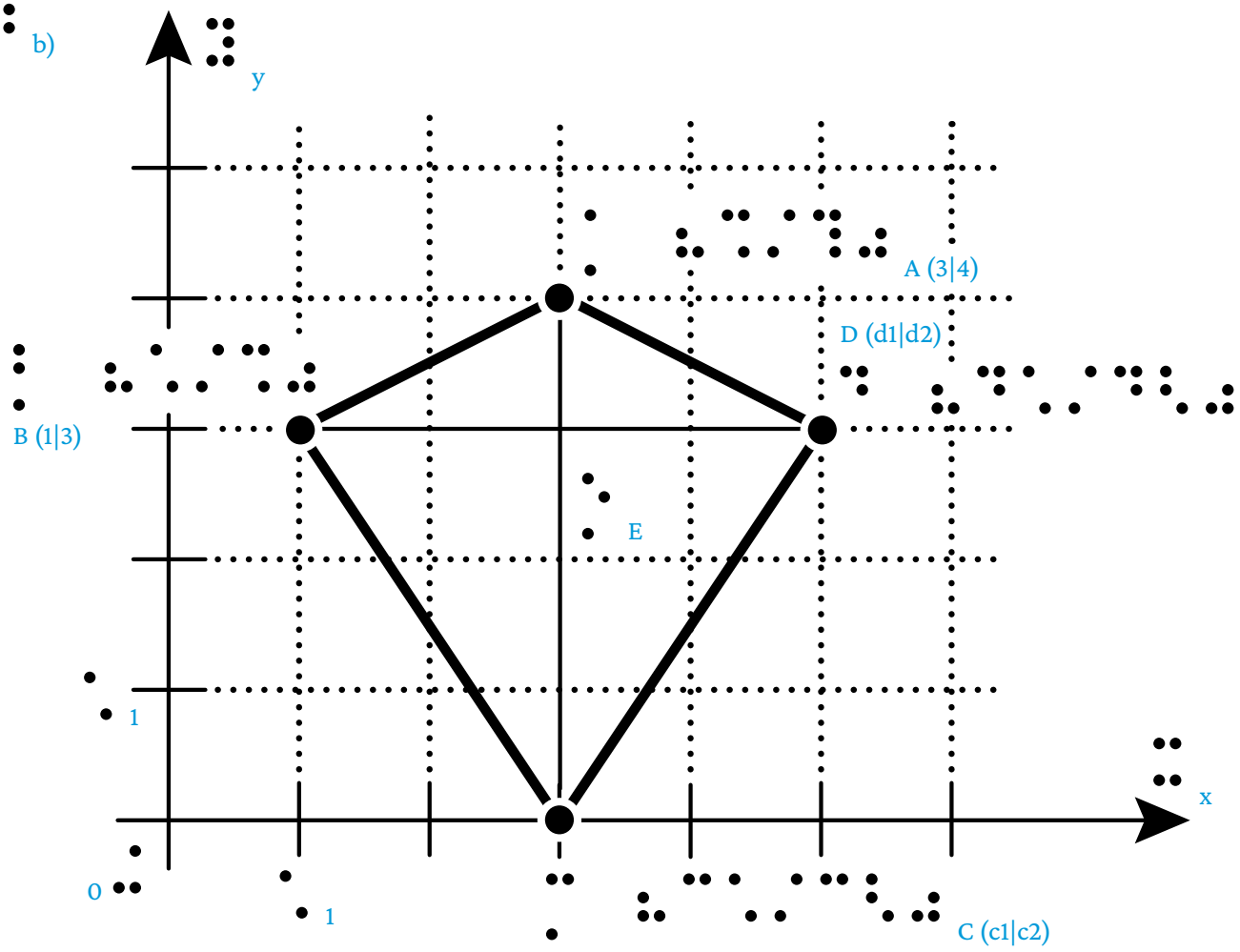
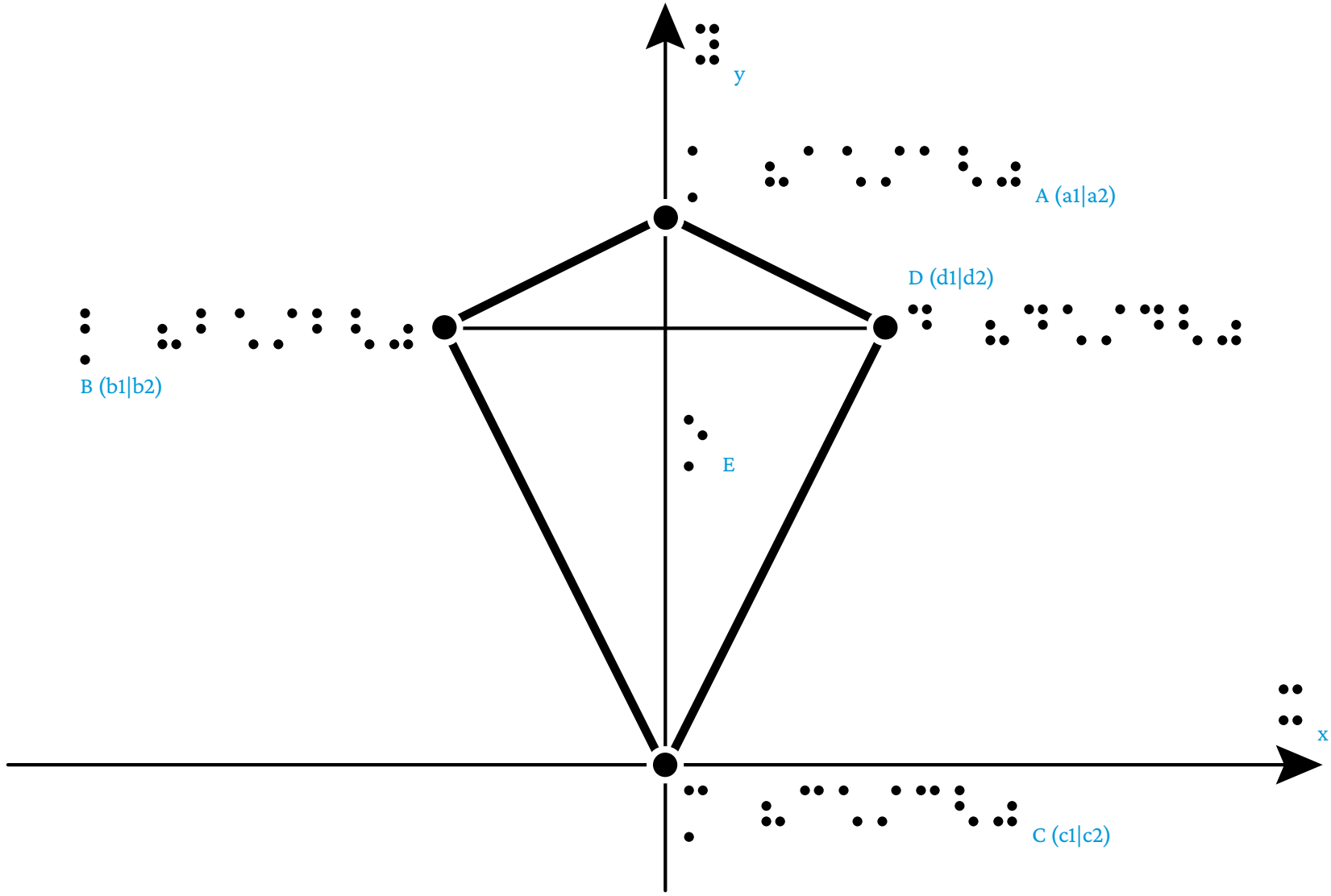
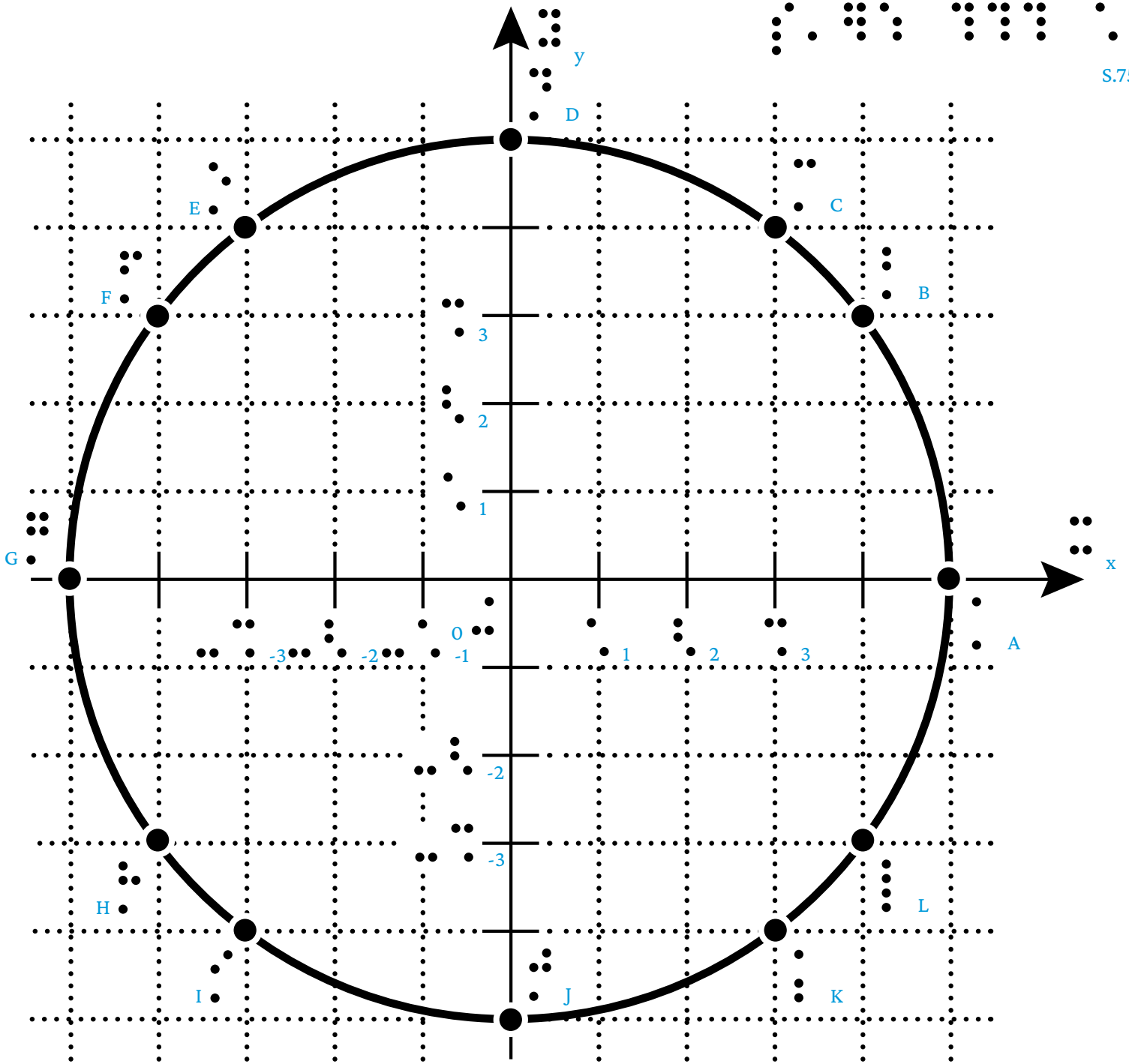
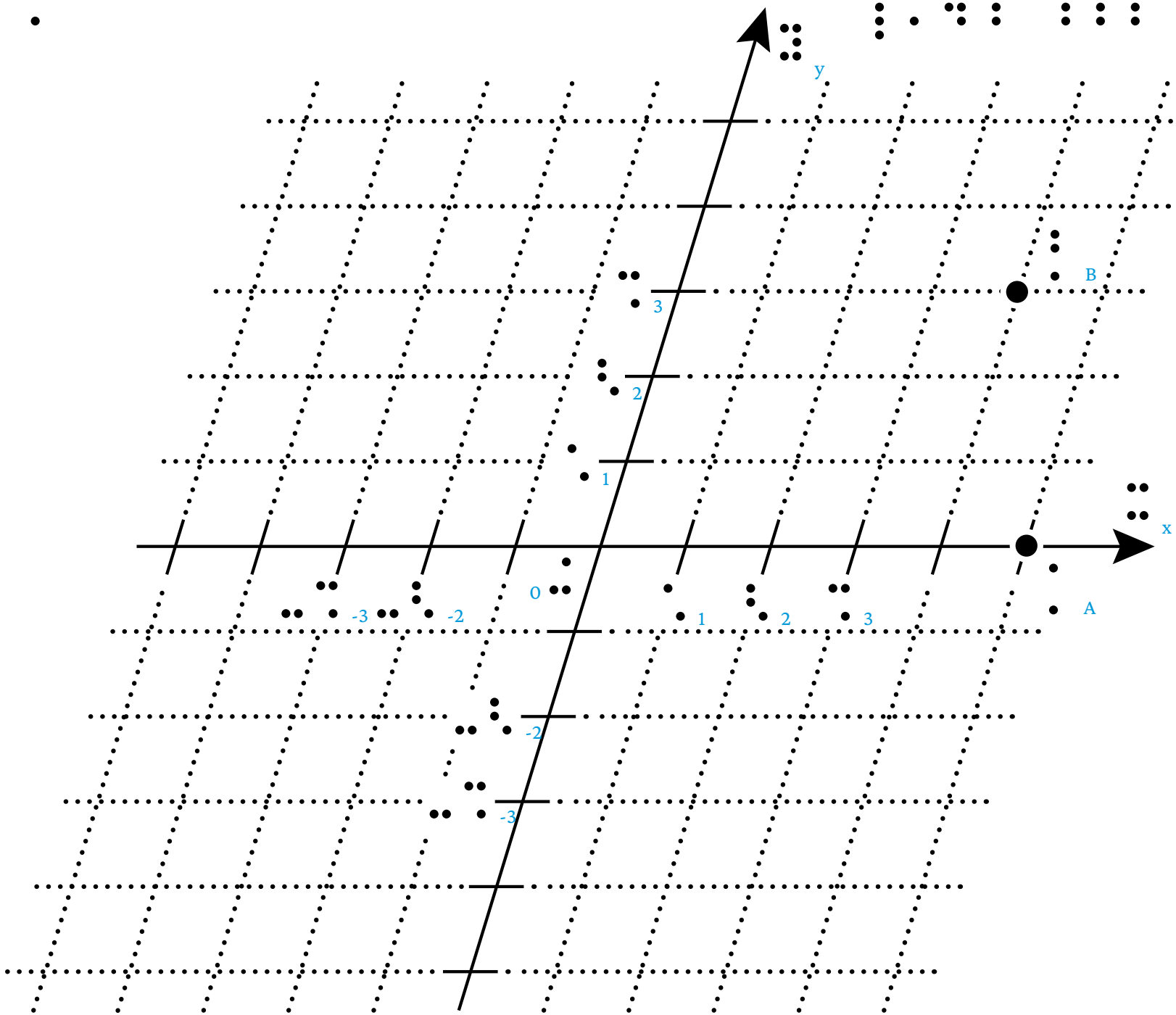


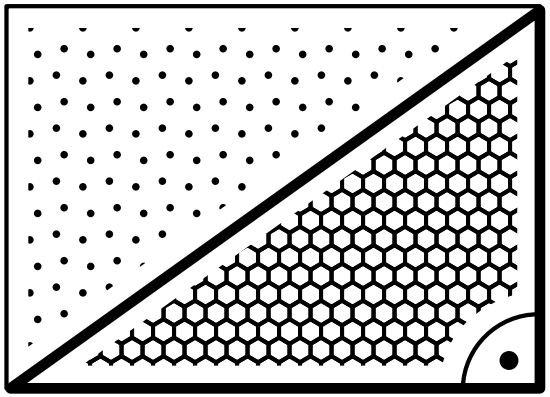

y
A (a1|a2)
D (d1|d2)
B (b1|b2)
E
x
C (c1|c2)

MVÜA3

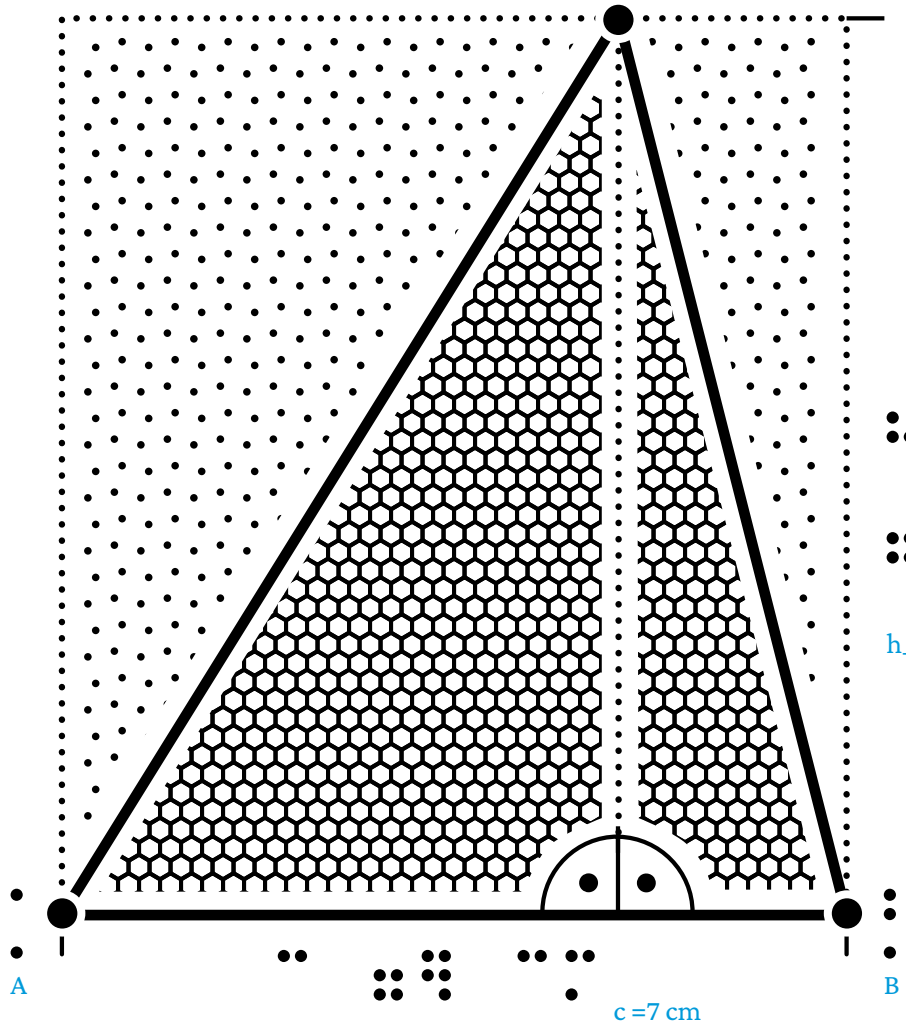
S.75 444 1/2




y
x
B
A
3
2
1
0
-3
-2
1
2
3
-2
-3



a)



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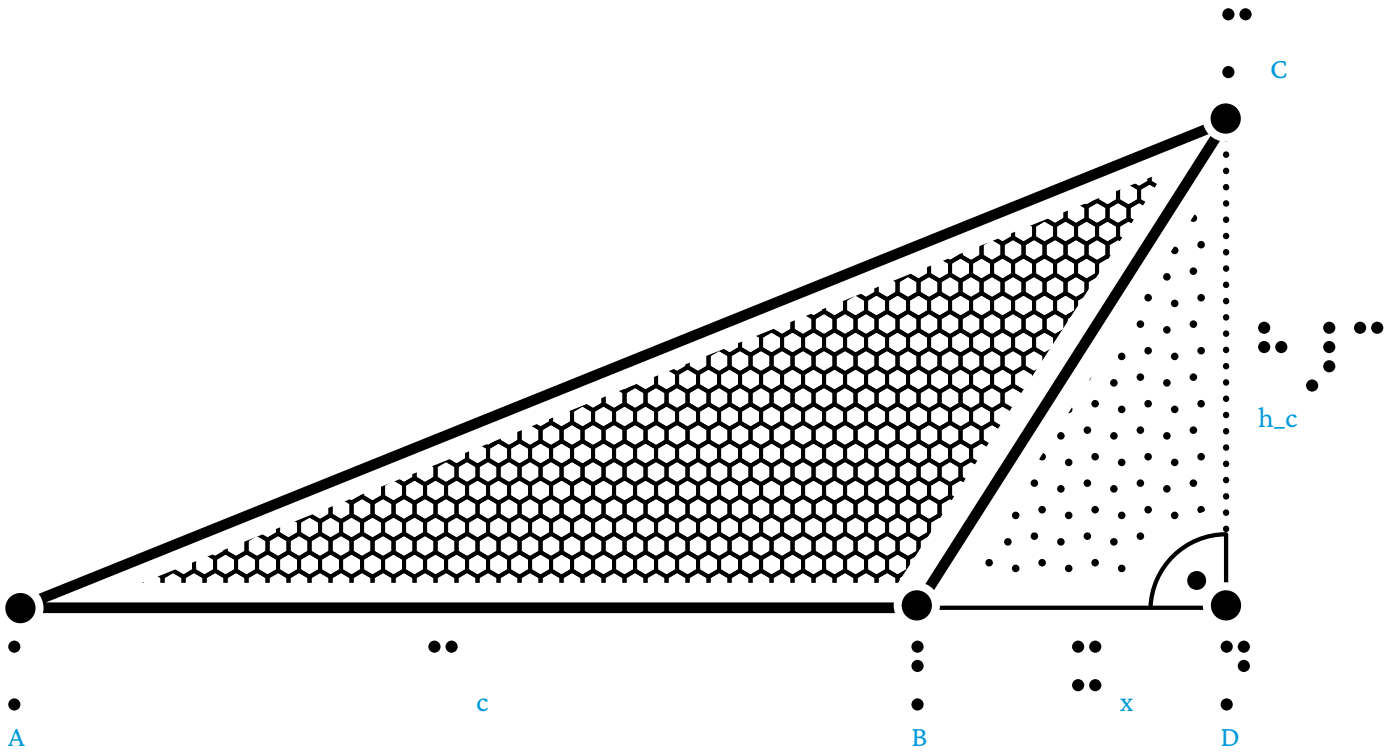

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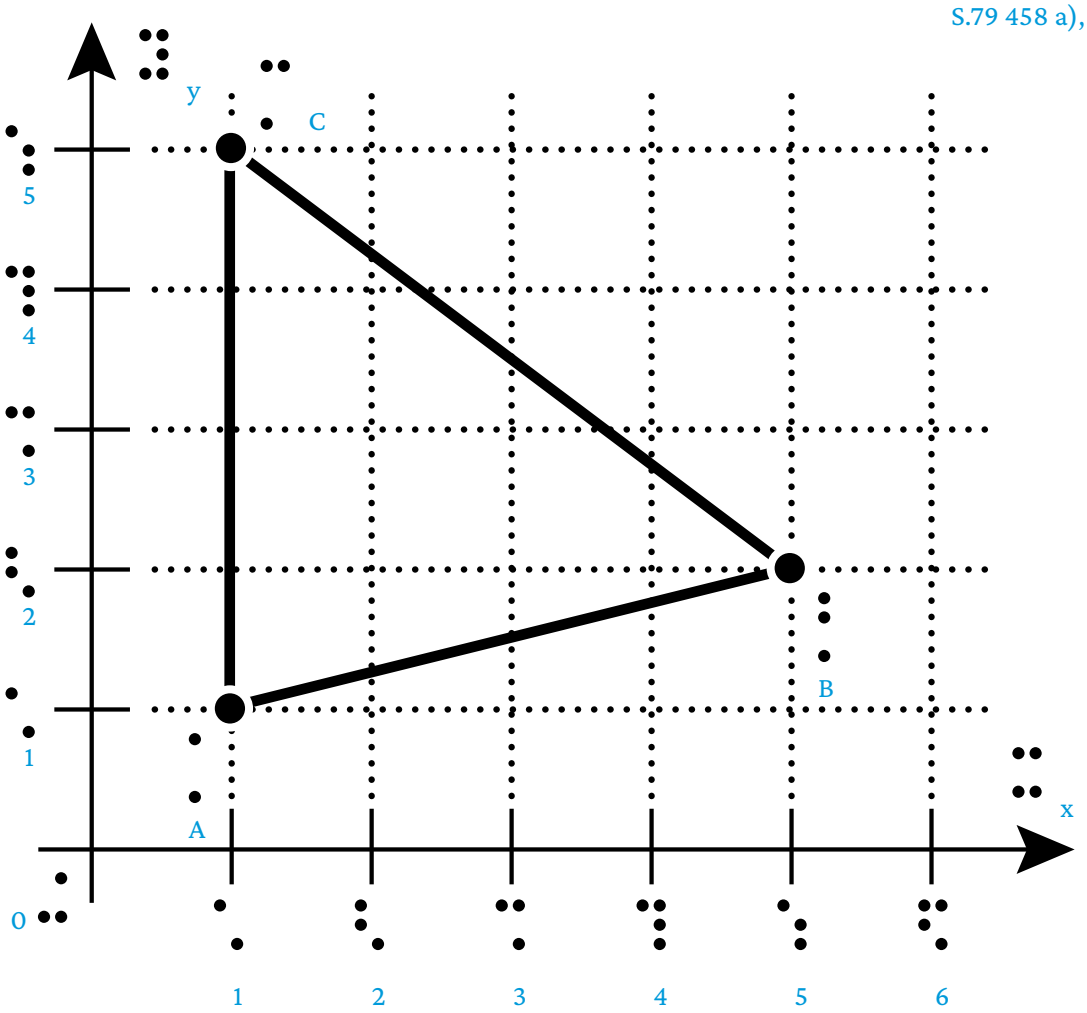

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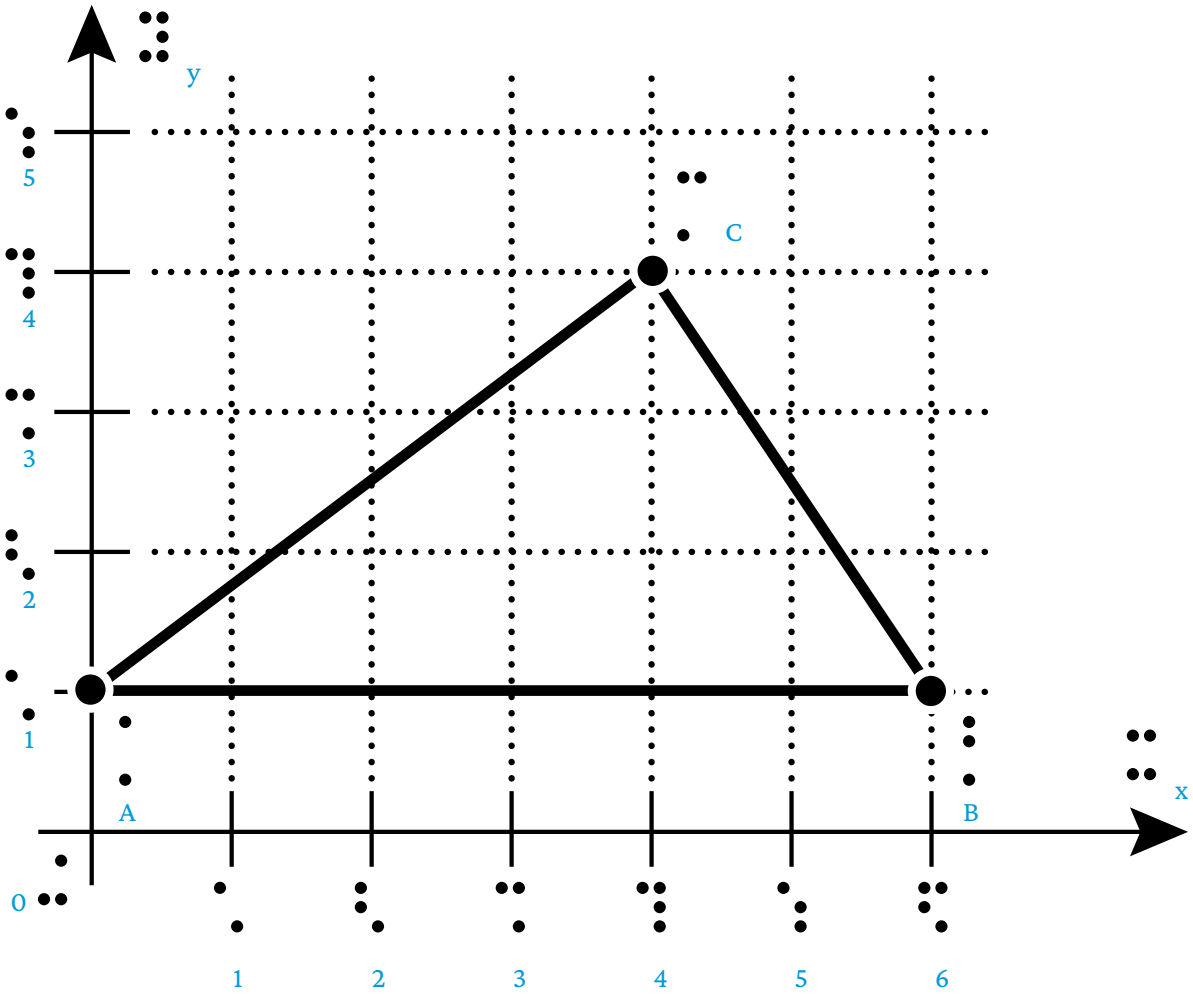

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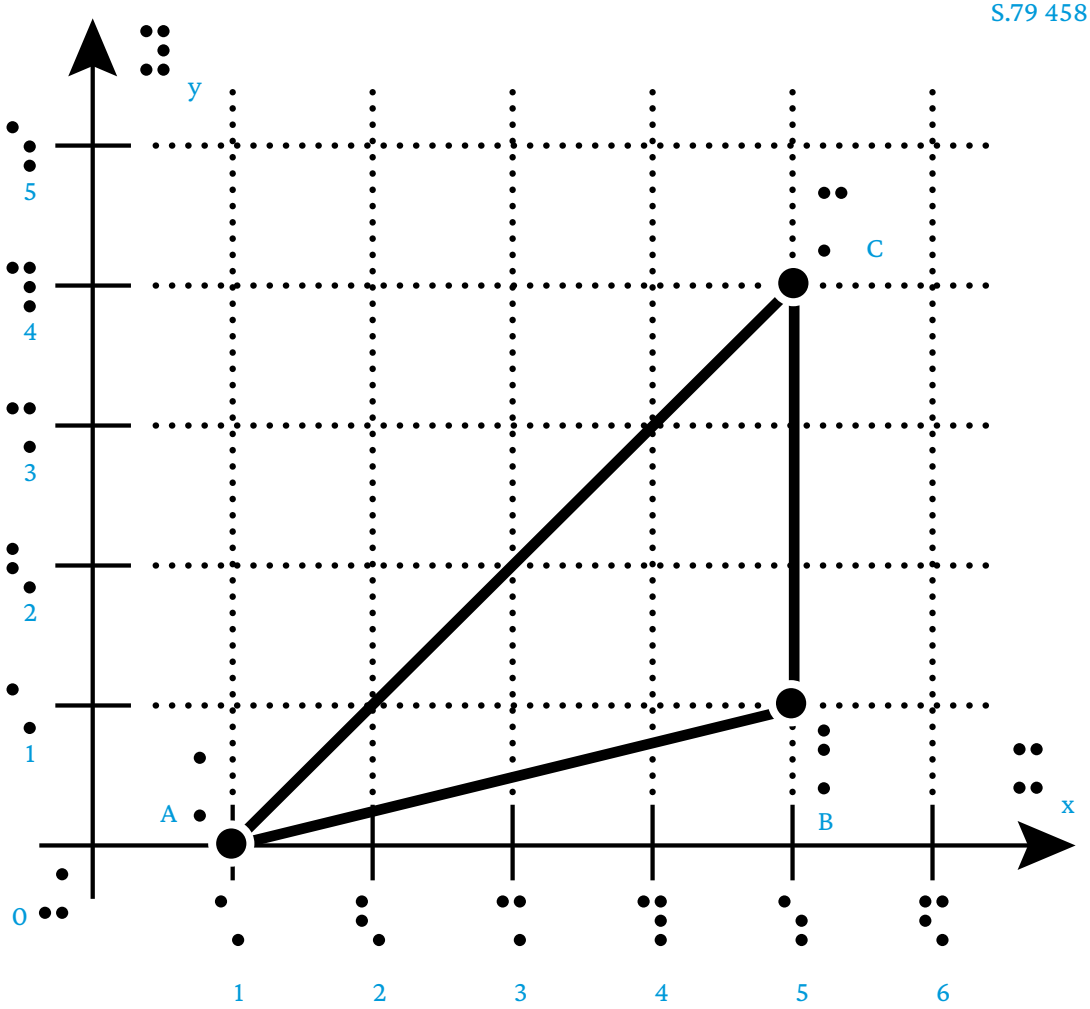
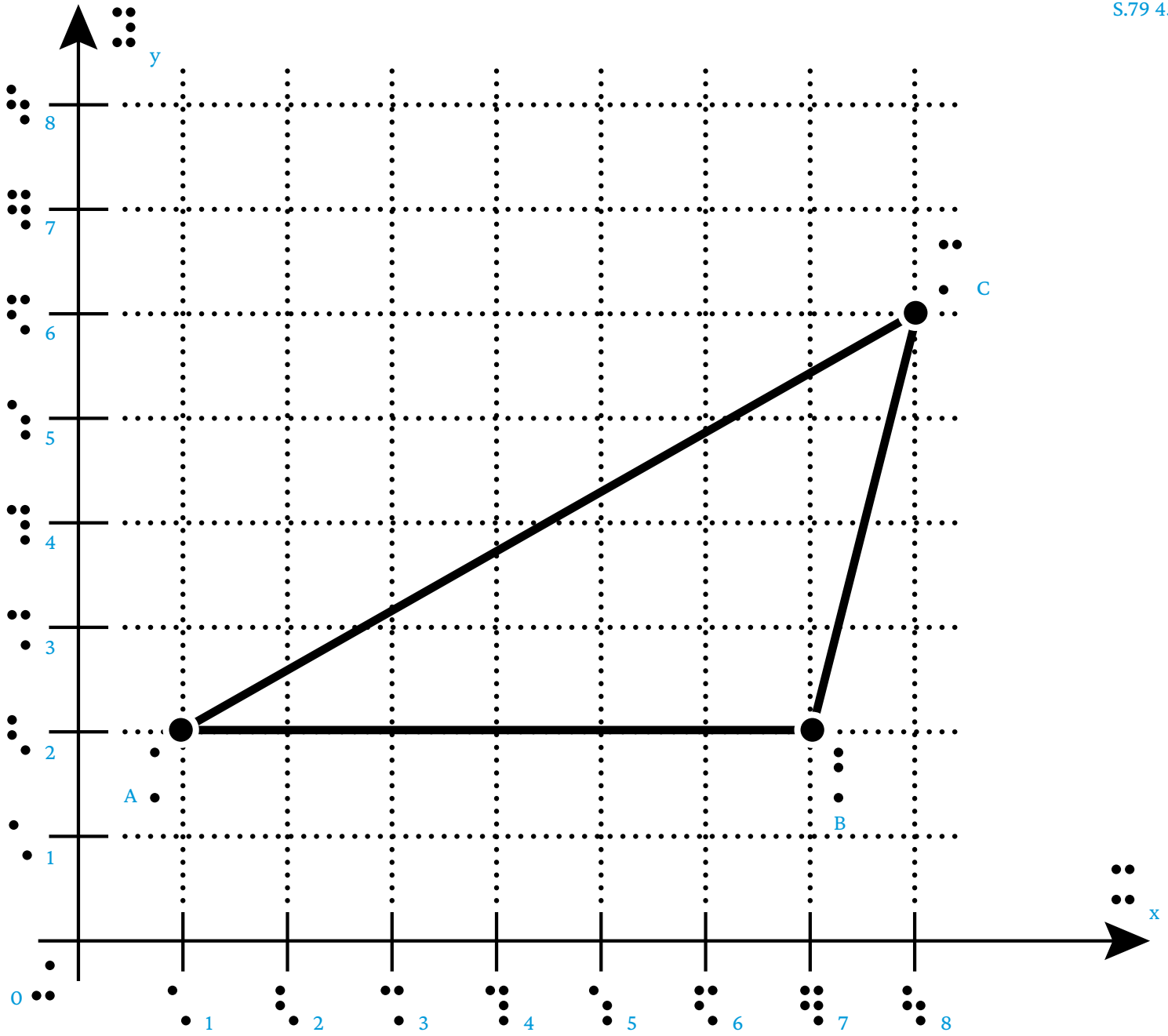


MVÜA3

S.79 459 a)

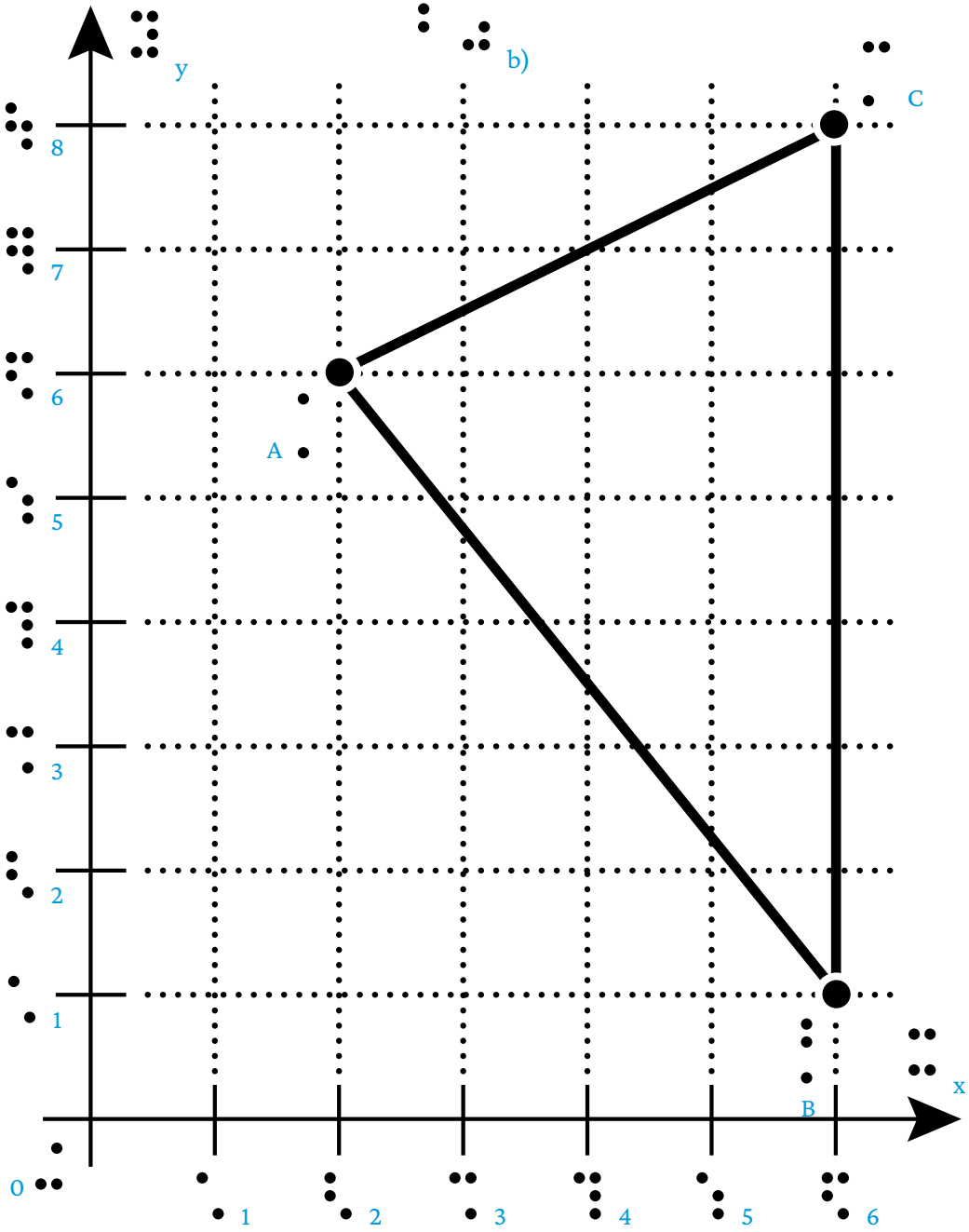
a)



MVÜA3

S.79 459 b), c)

b)



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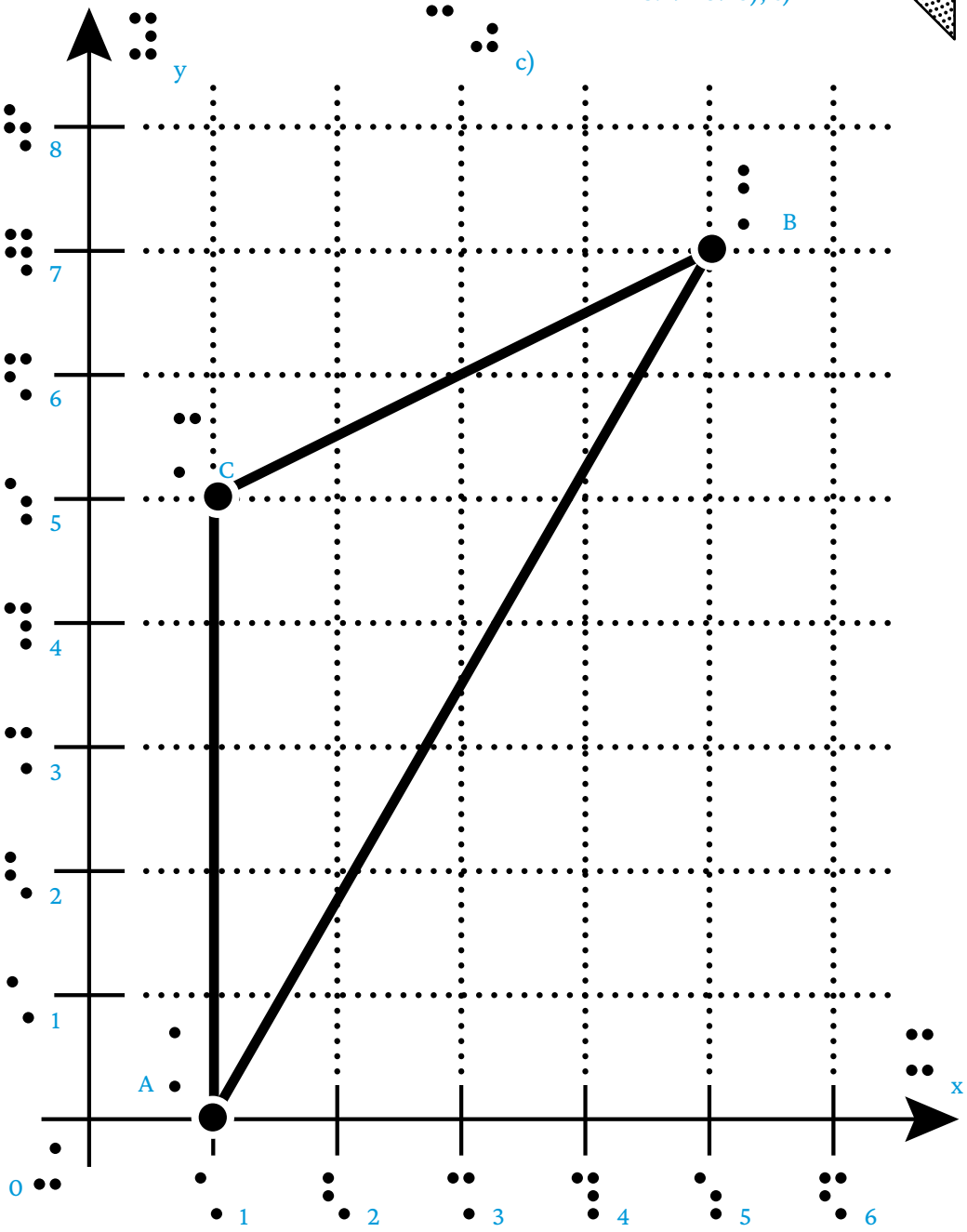

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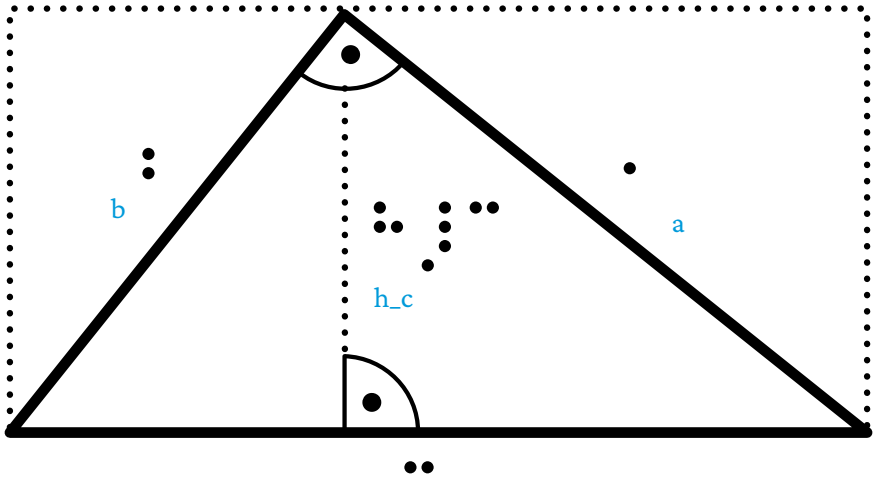

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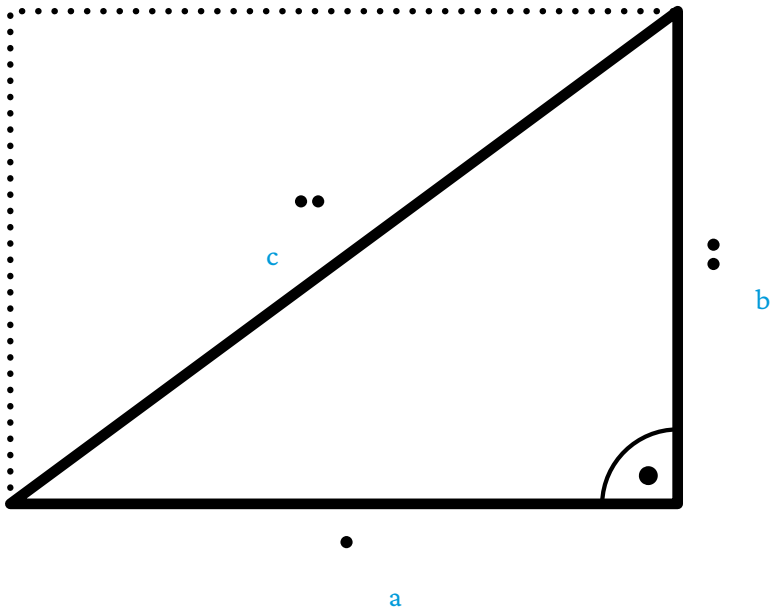
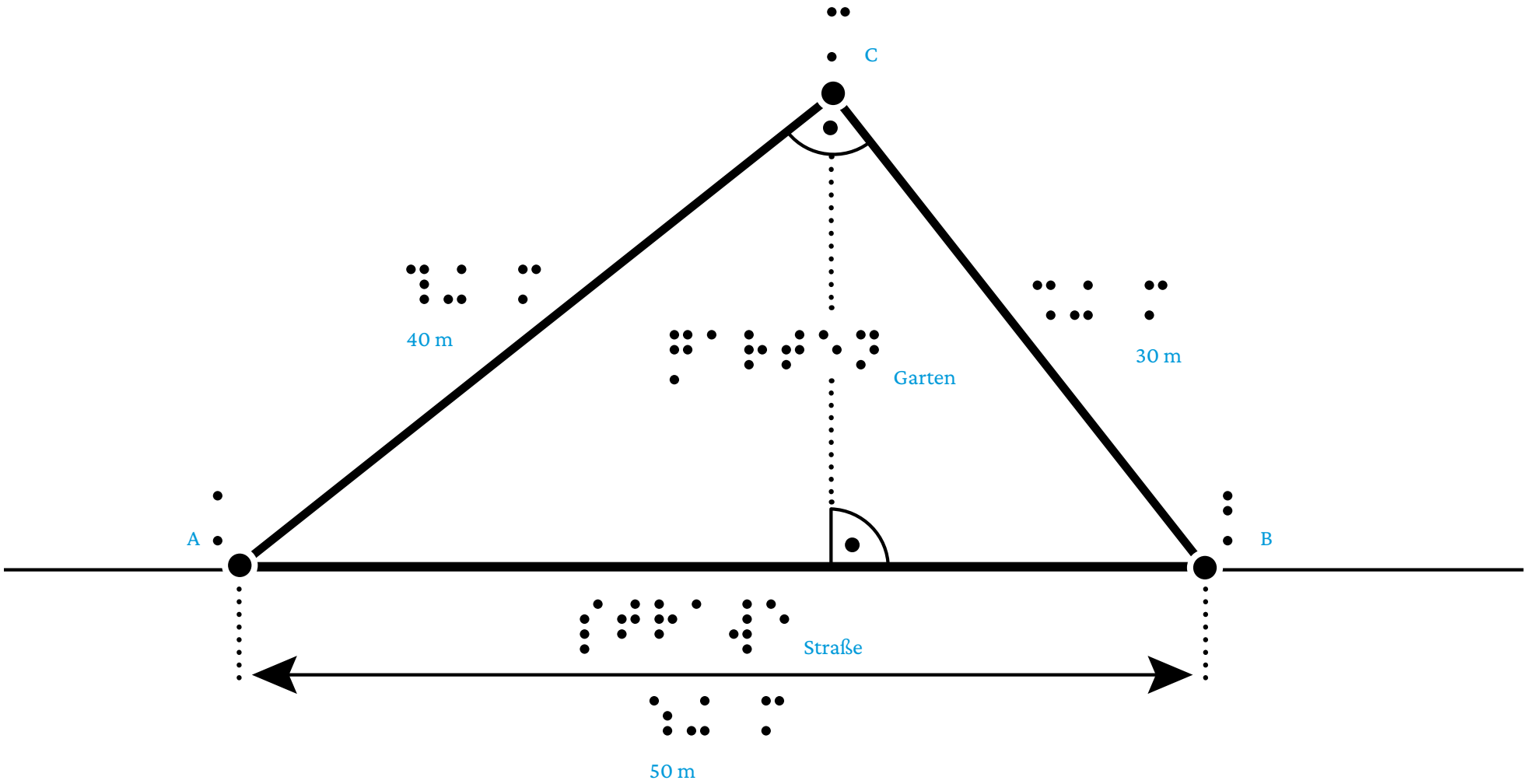
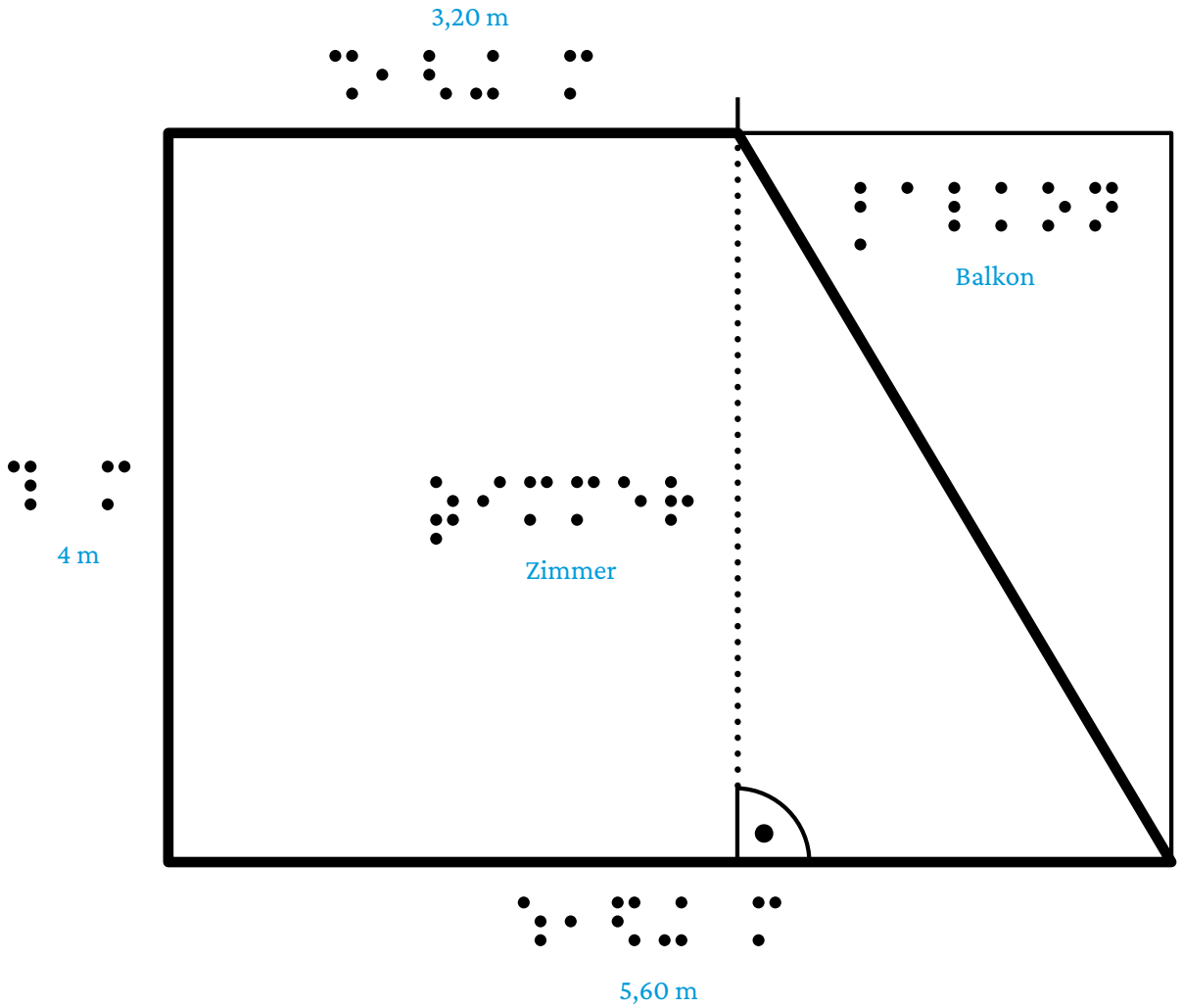


Grundriss



Grundriss



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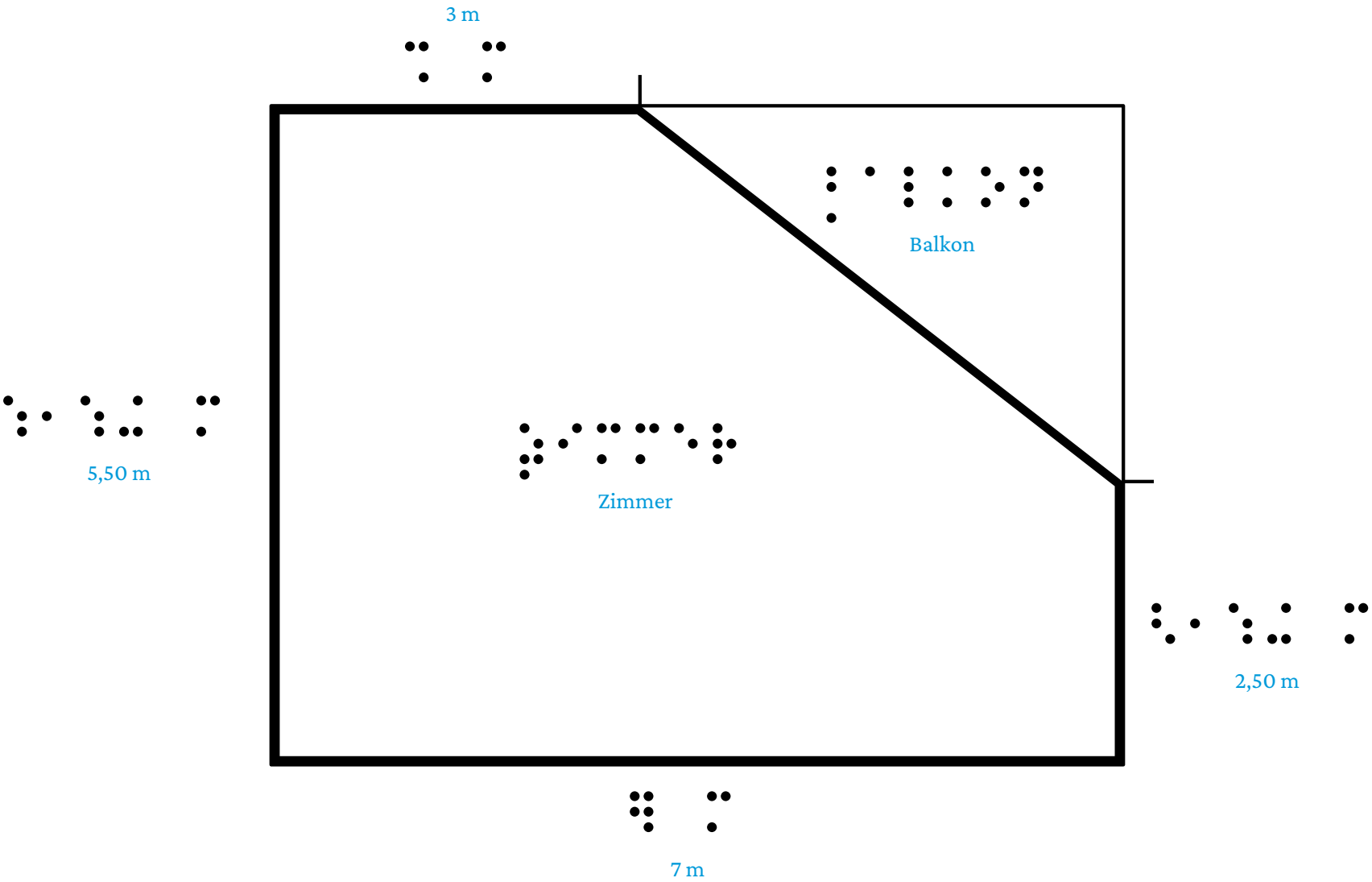

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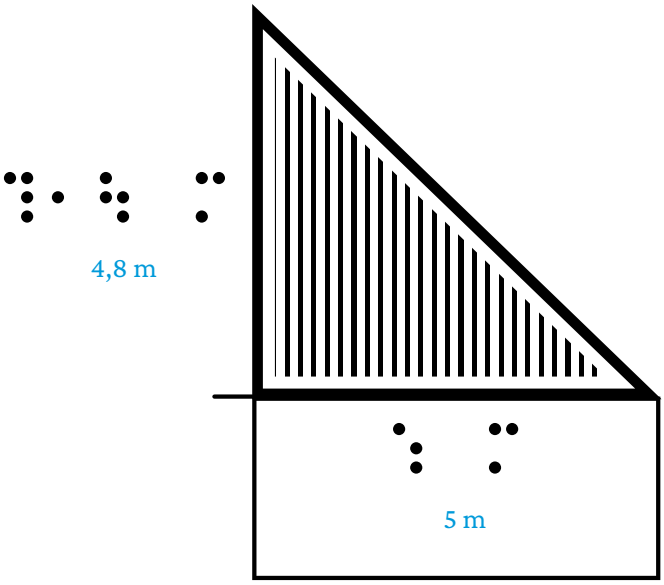

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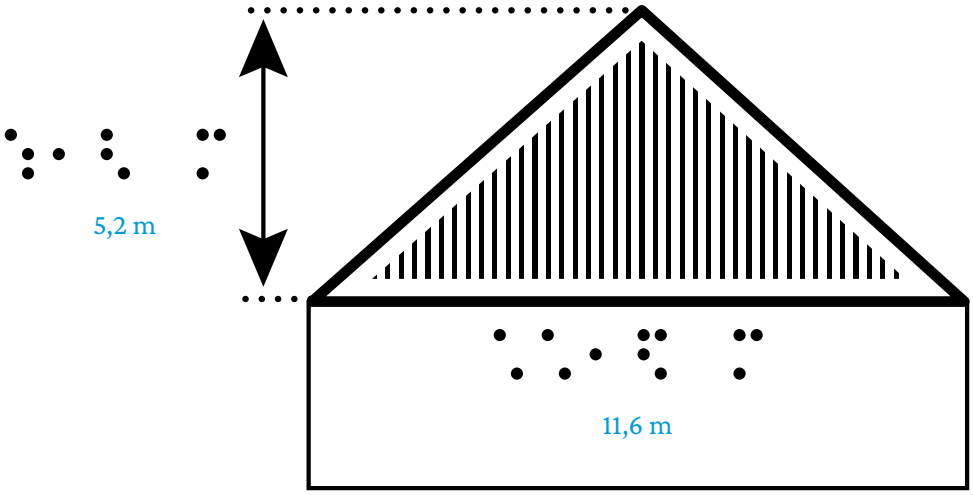

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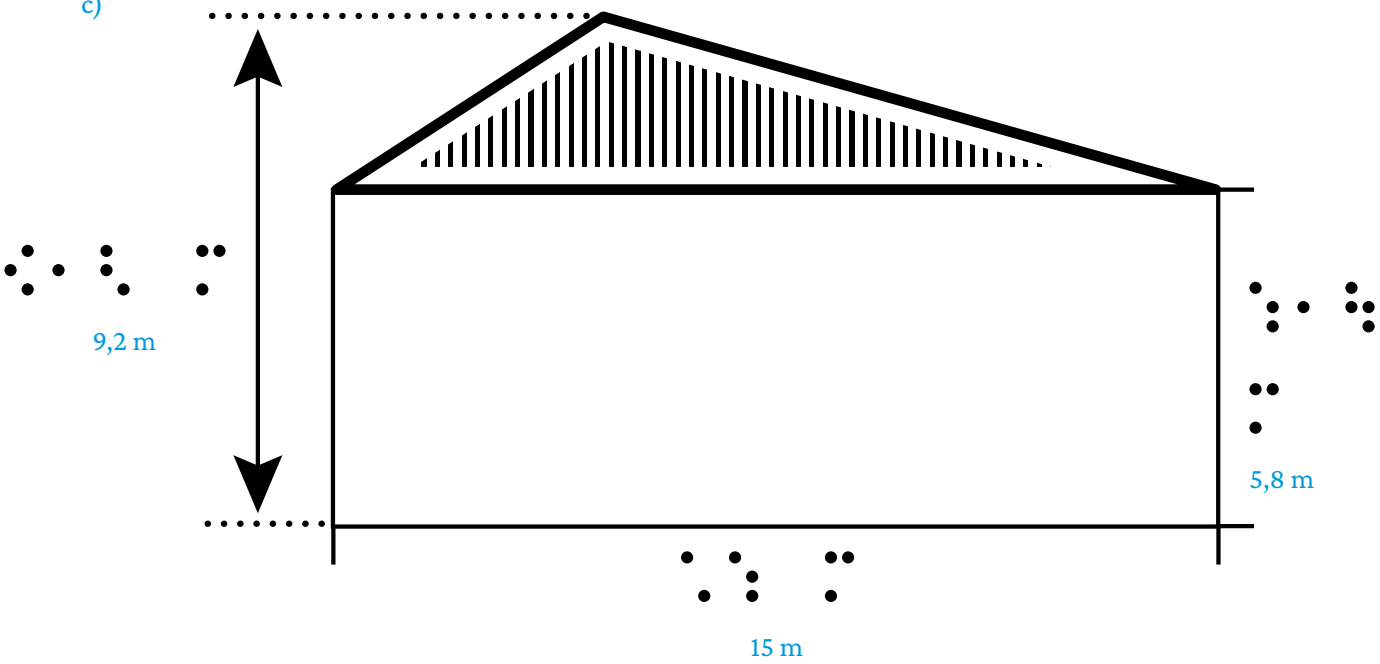
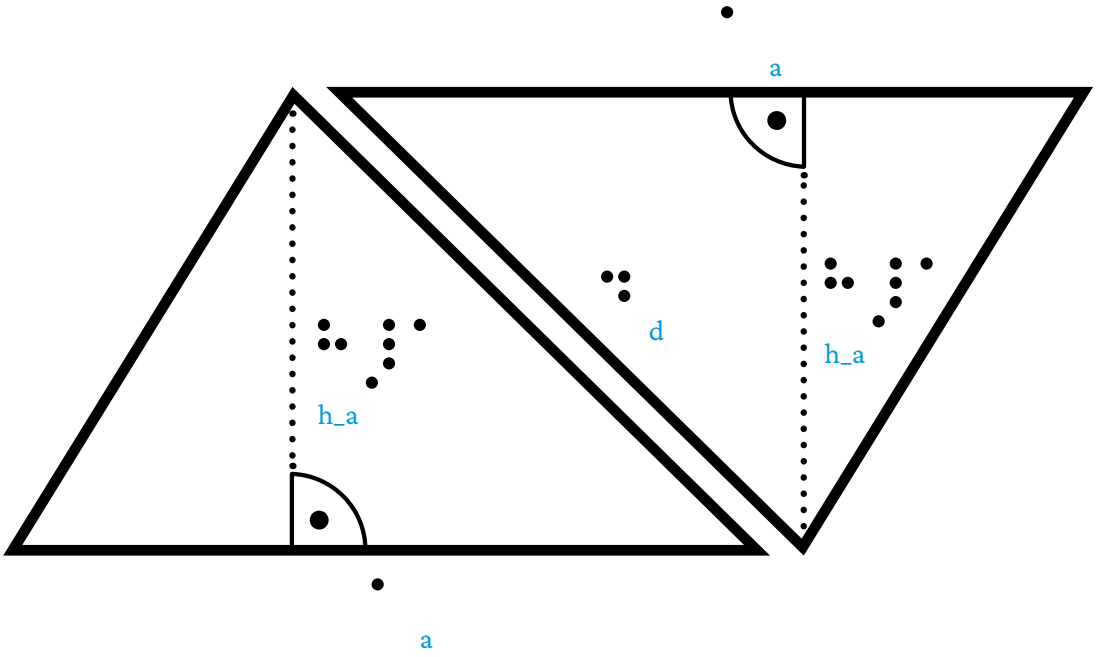
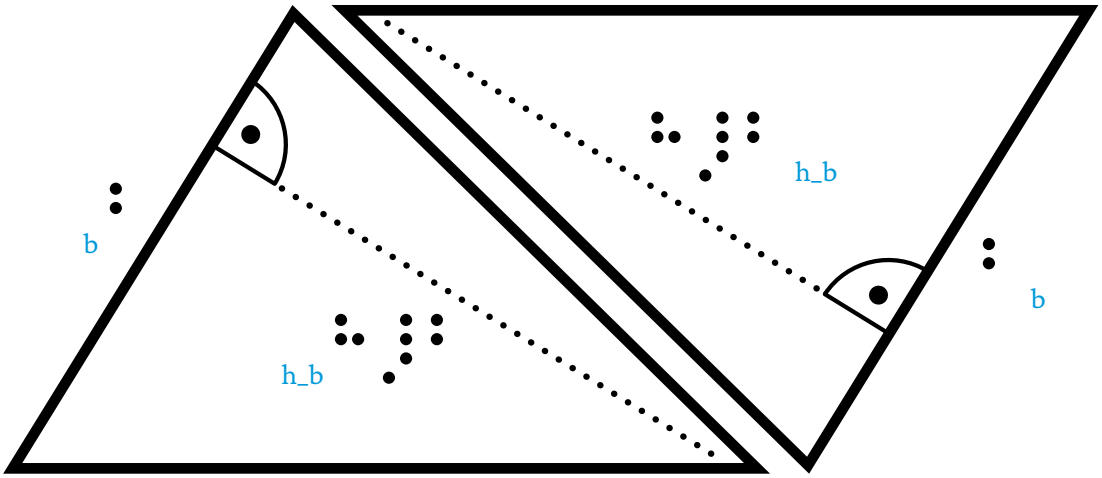
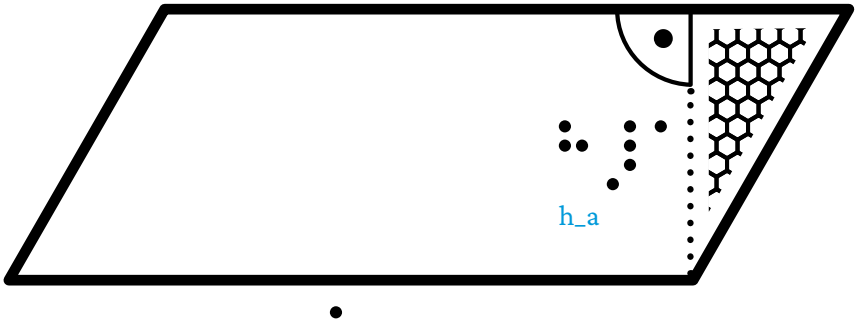



a
d
h_a
h_a
a


h_b
b
b
h_b


h_a
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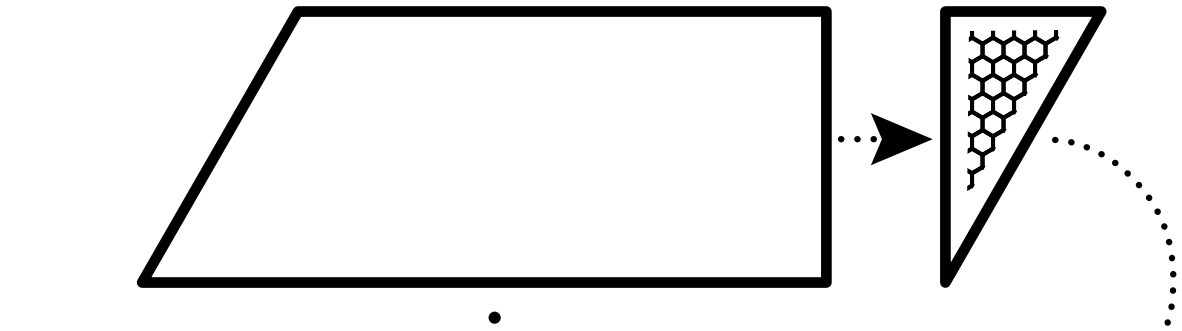
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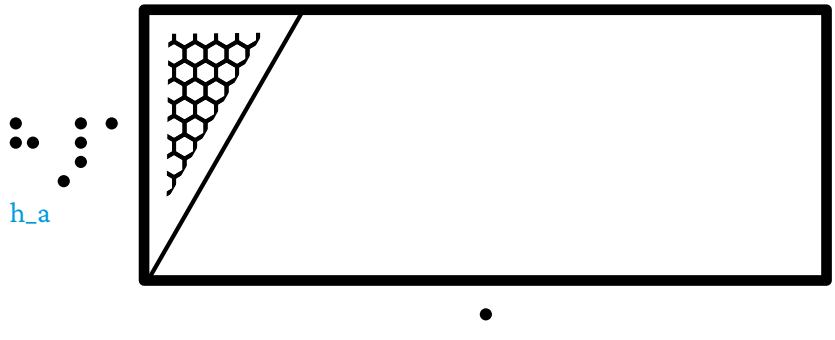
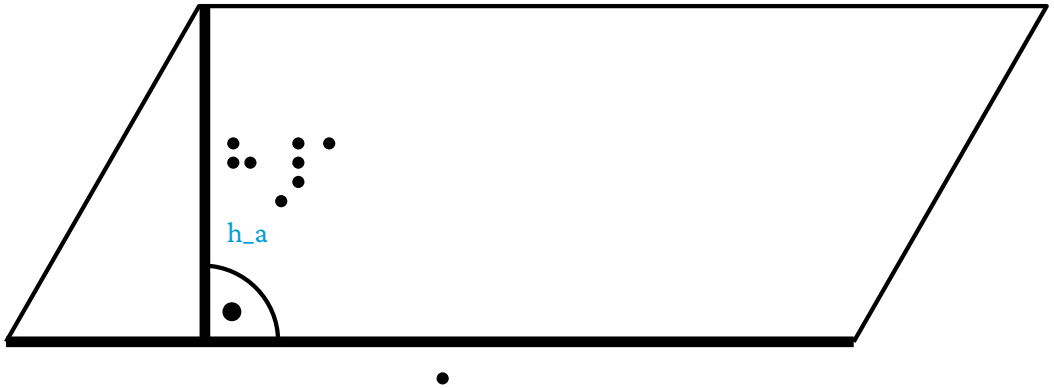
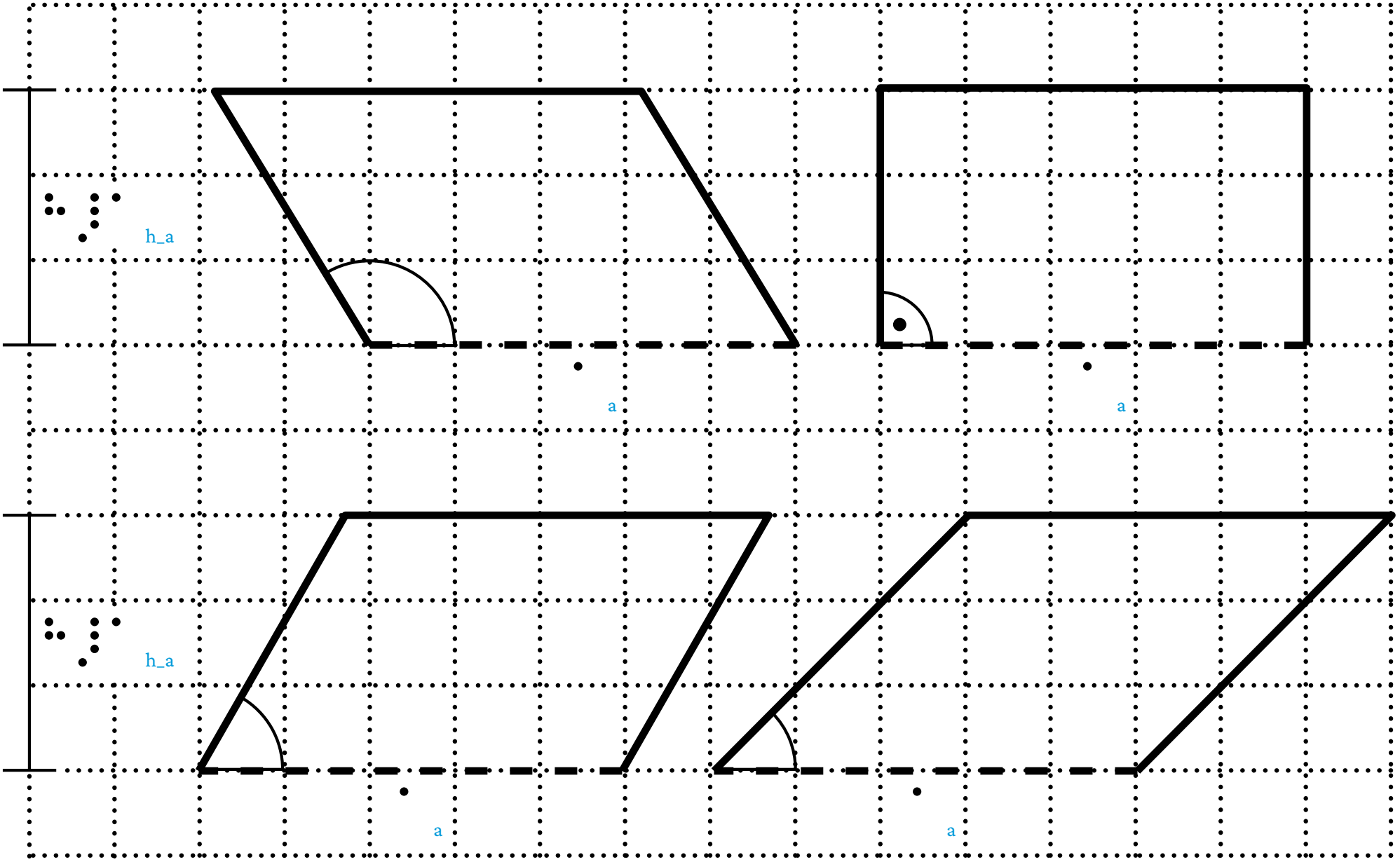
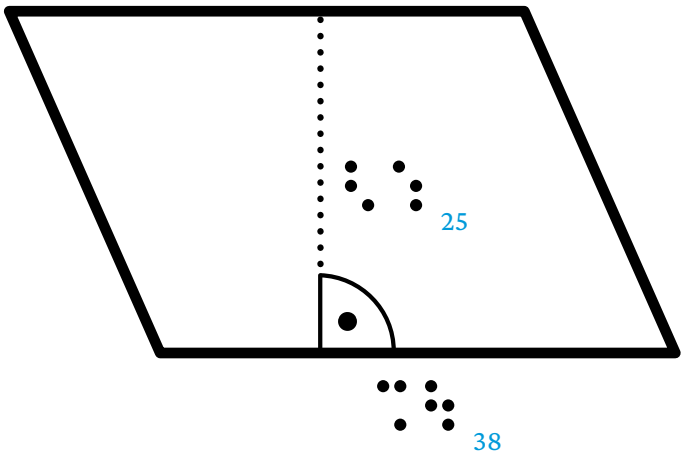

h_a
a



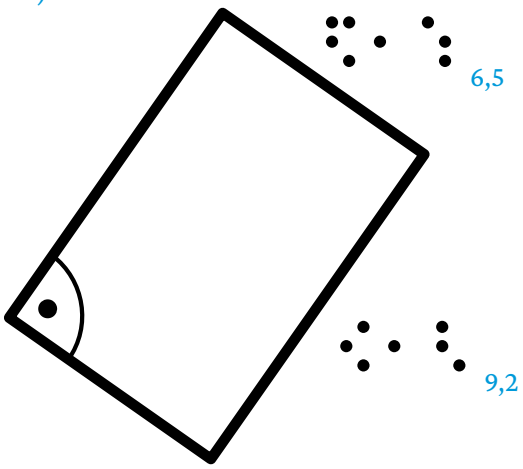
Formel:
A =a *h_a


h_a
a
a
h_a
a
a

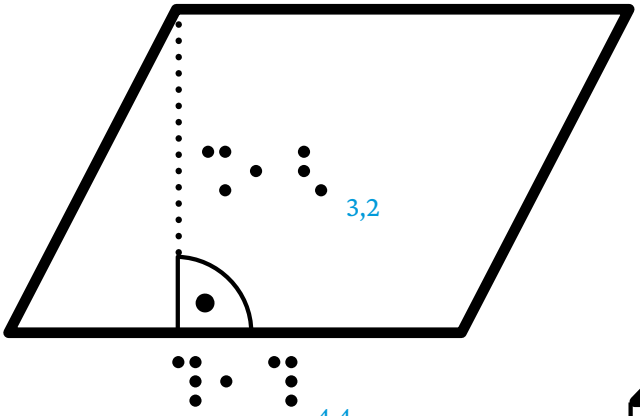
a)



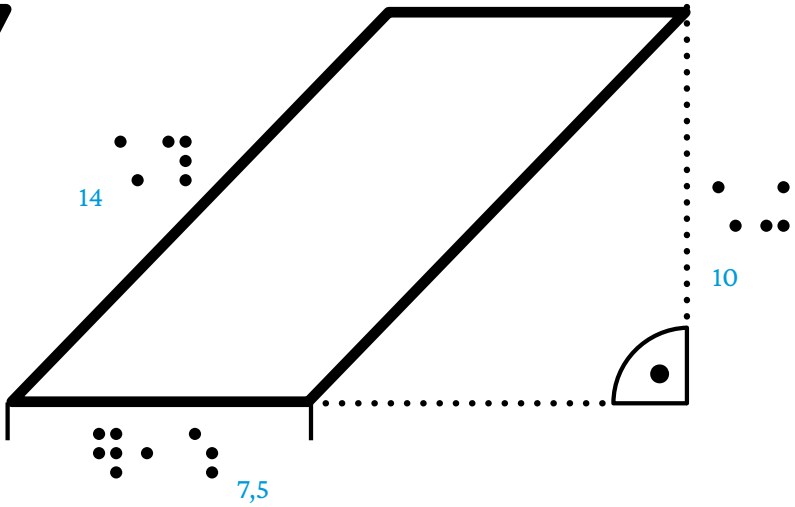
b)



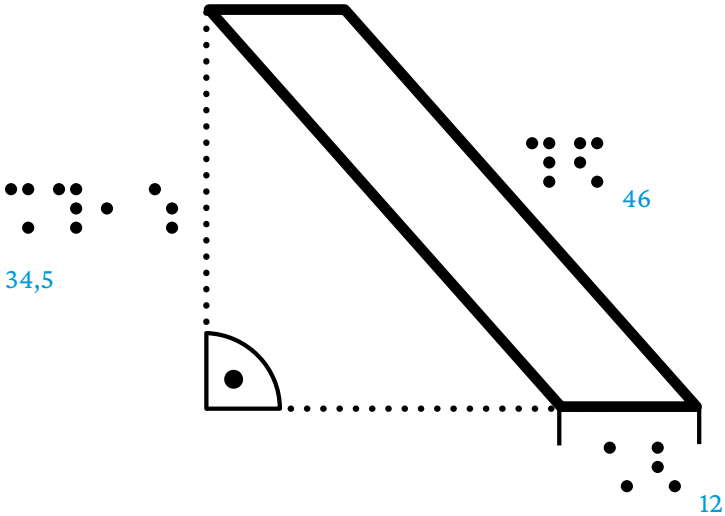
c)



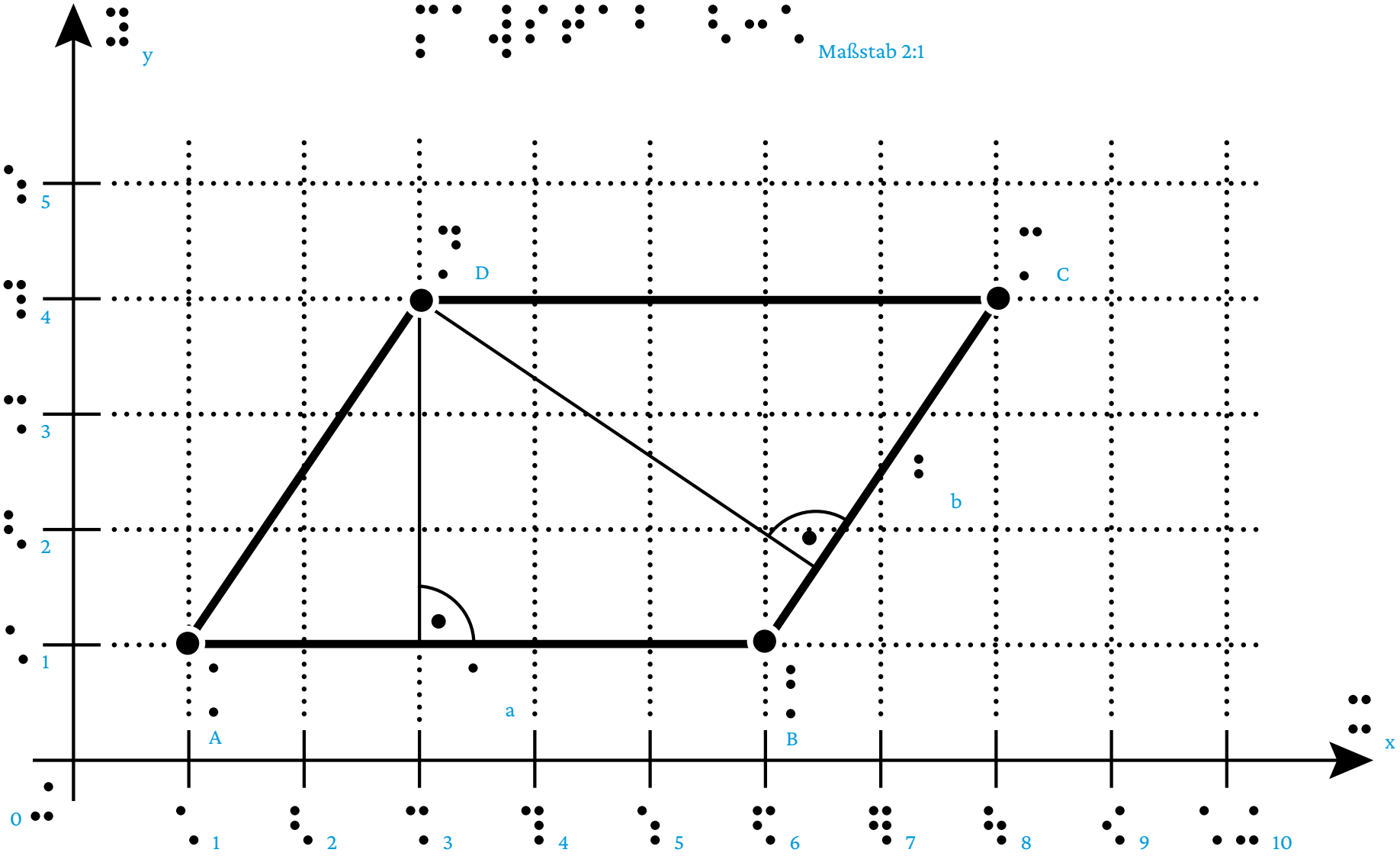
d)



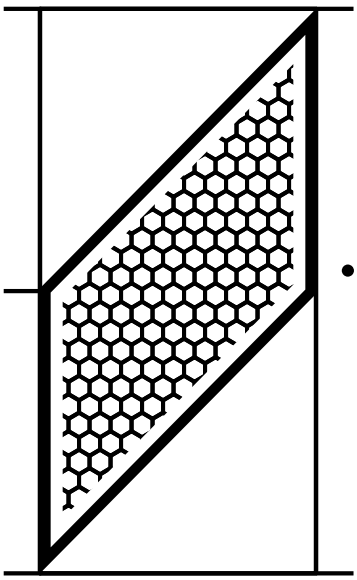
e)



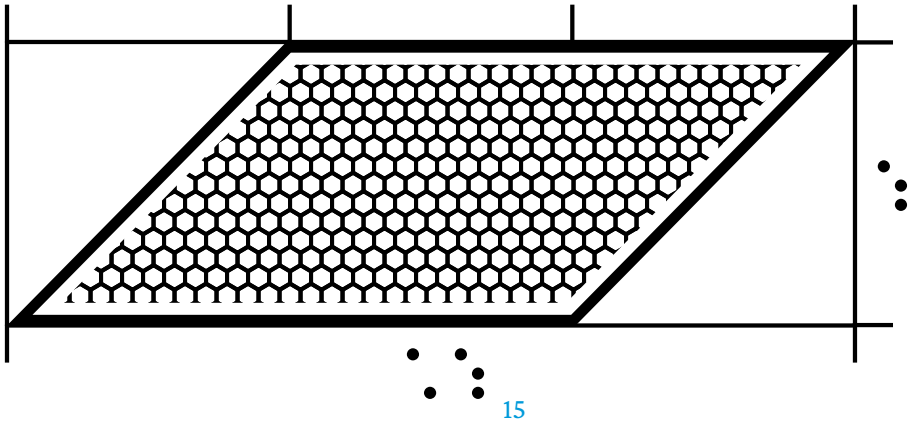
Maßstab 2:1



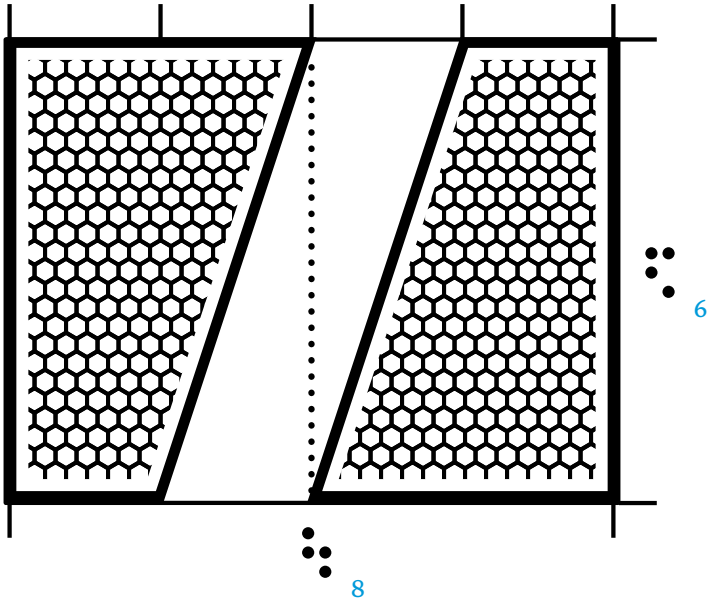
a)



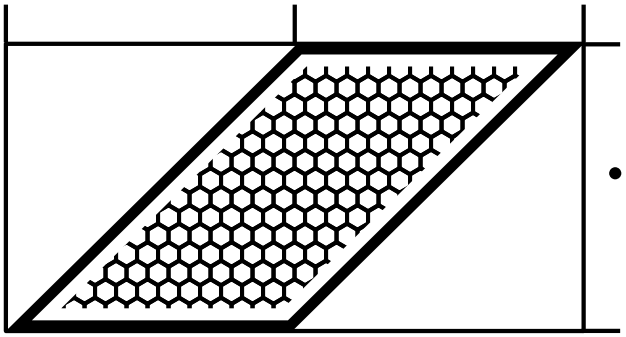
b)



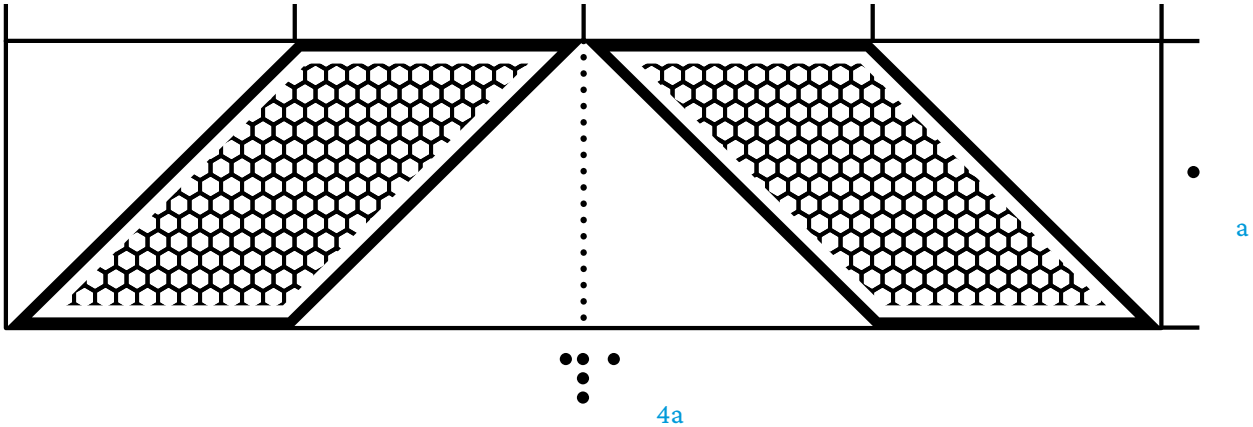
c)



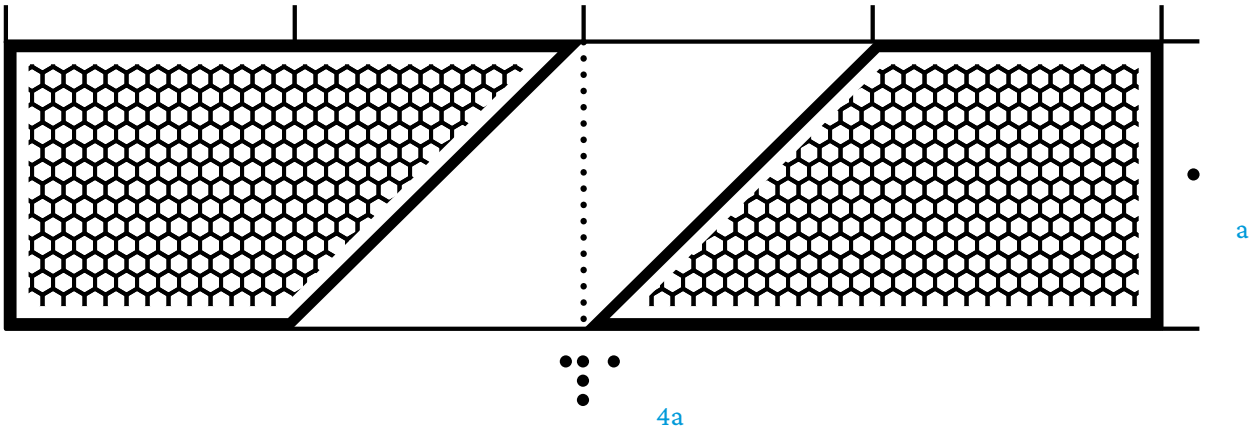
a)



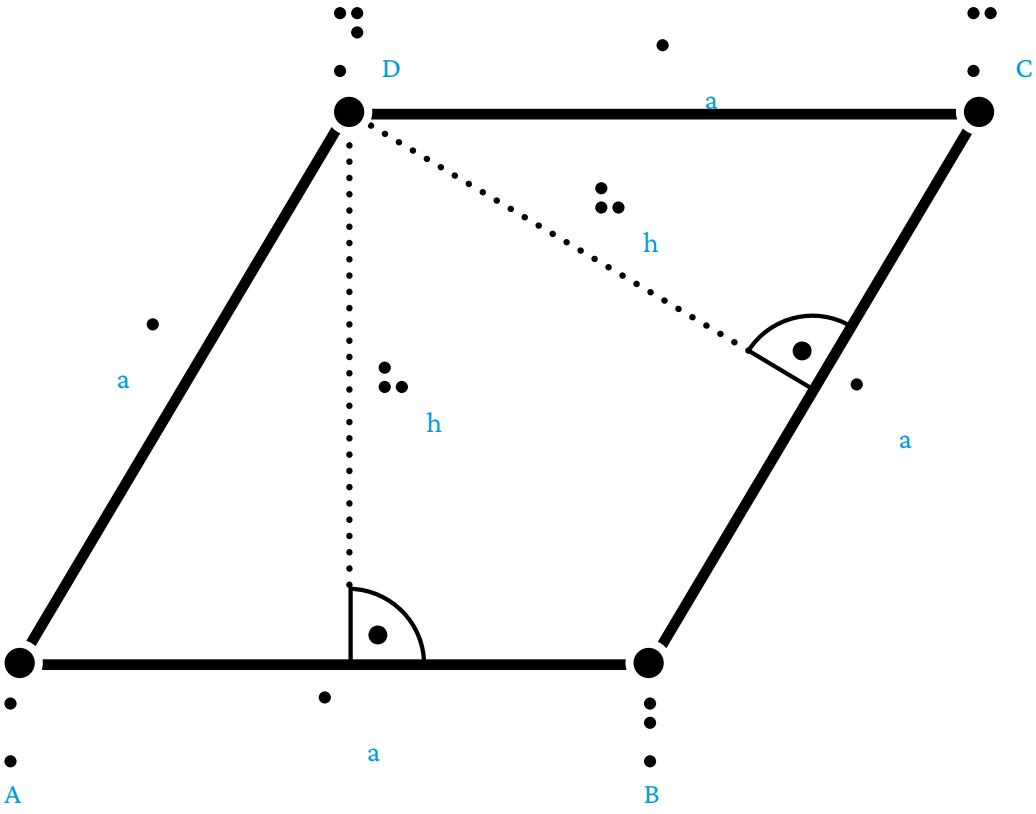
b)

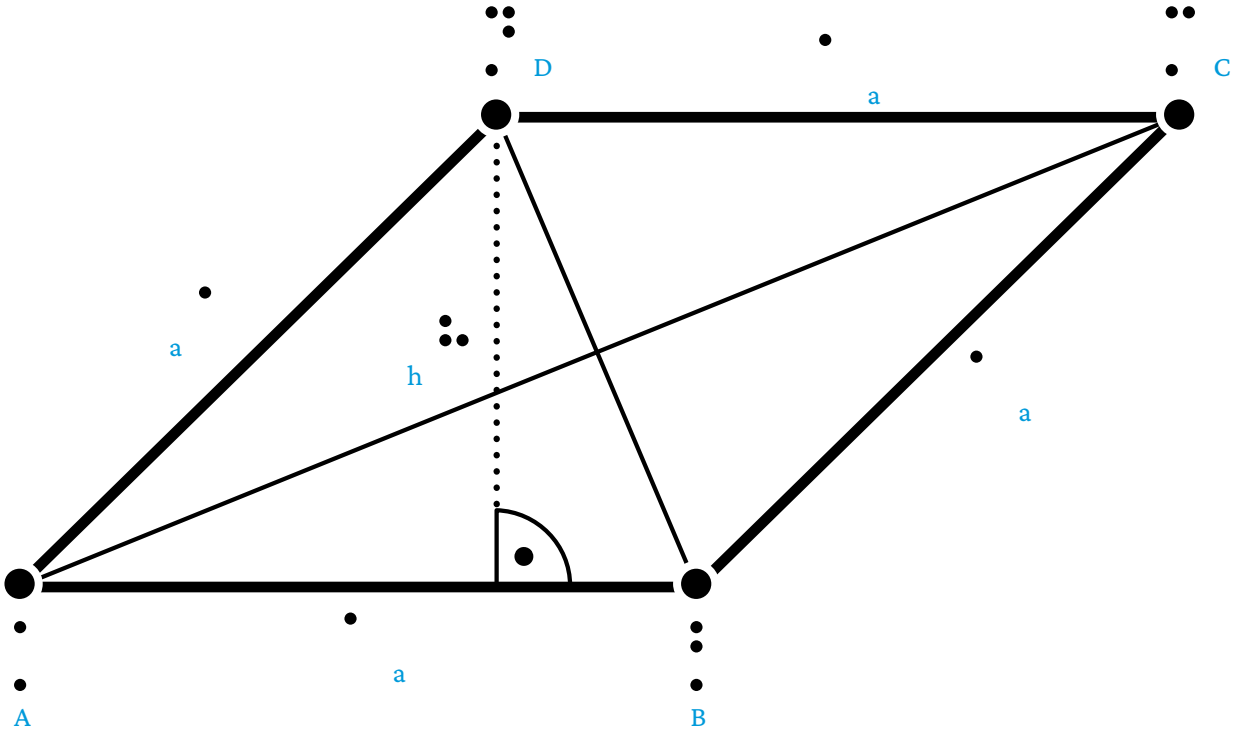


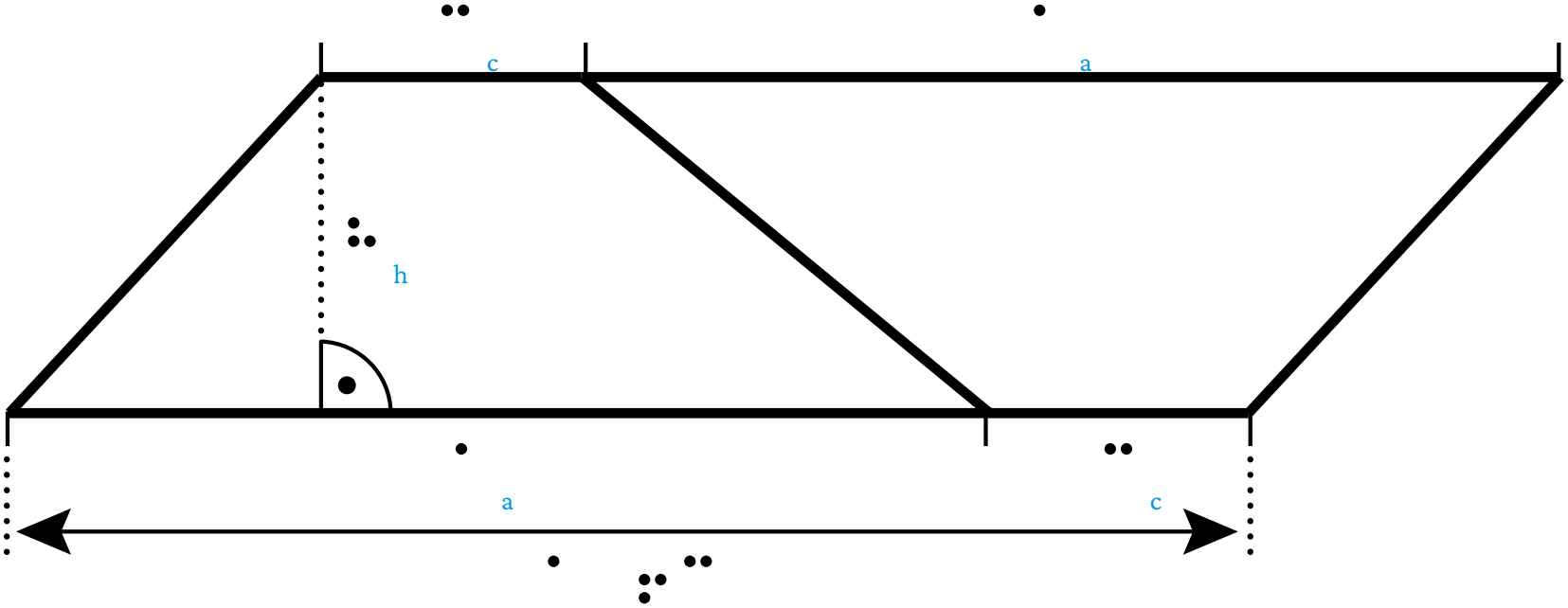
c)

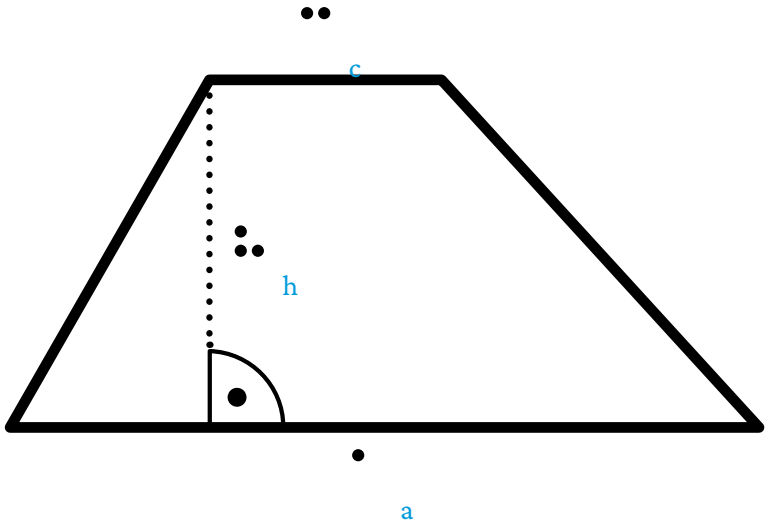


S.85 Einführungsbeispiel



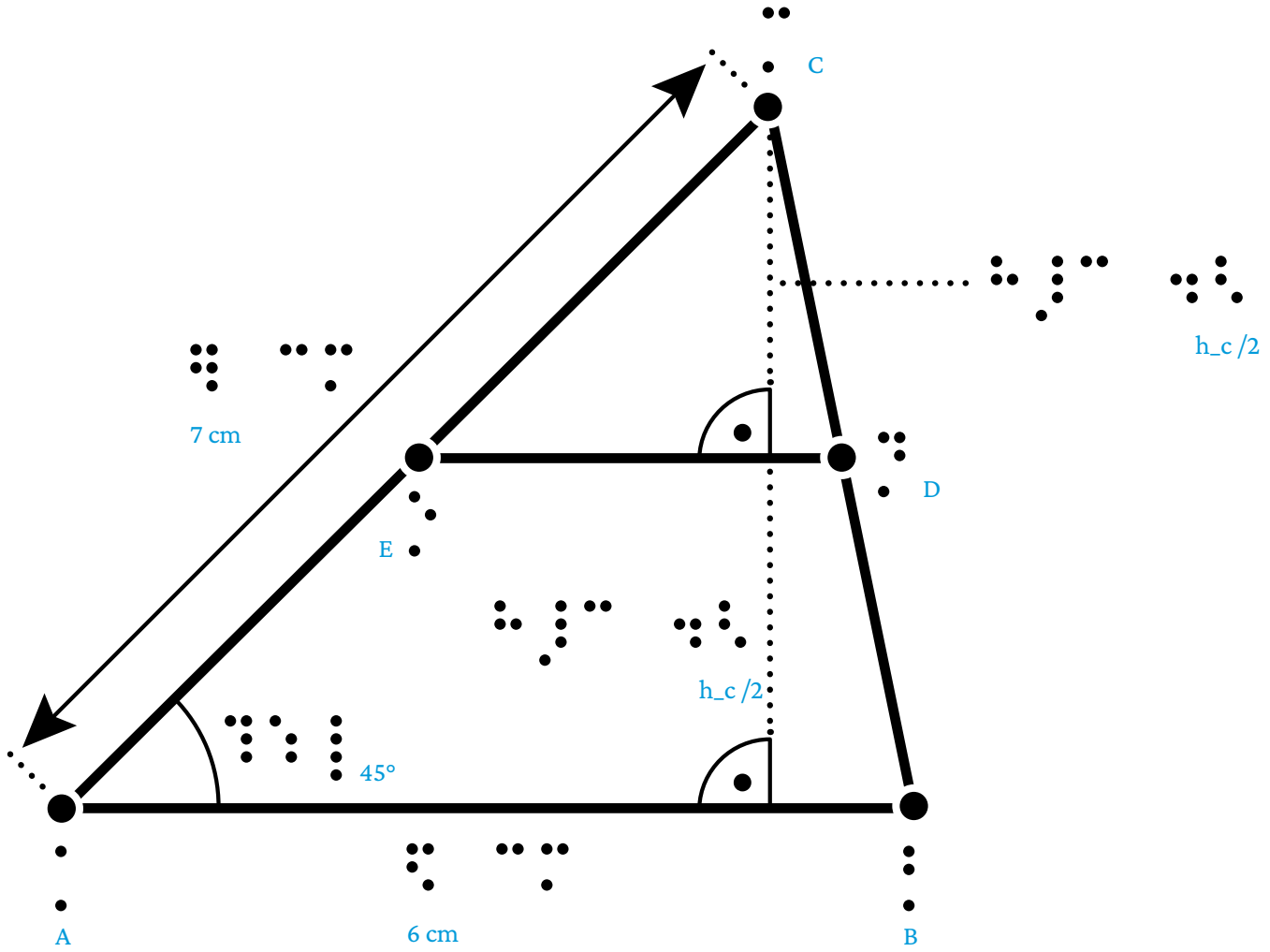


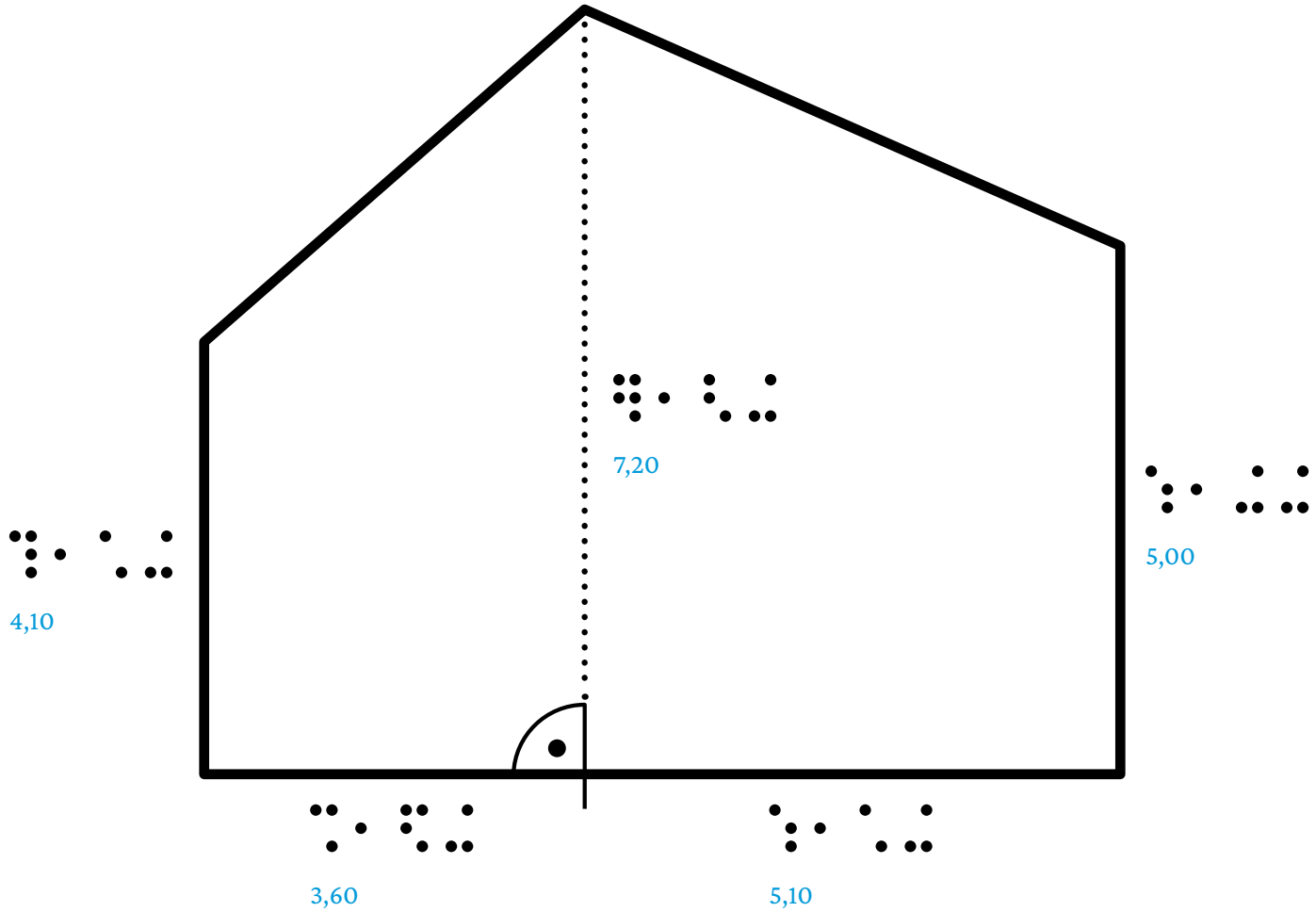




Formel:
A =((a +c) *h)) /2

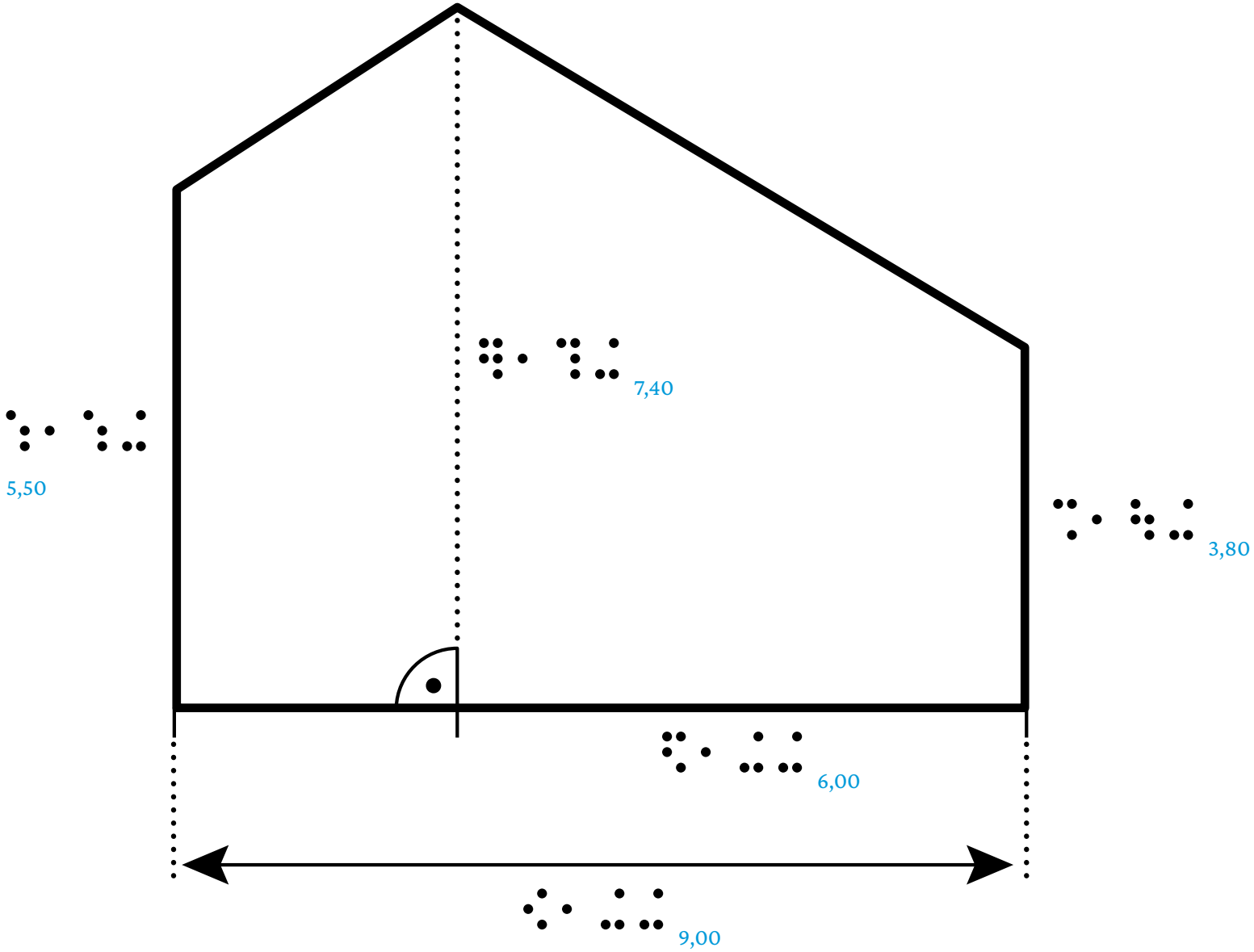
Maßstab 2:1




7,20
4,10
5,00
3,60
5,10

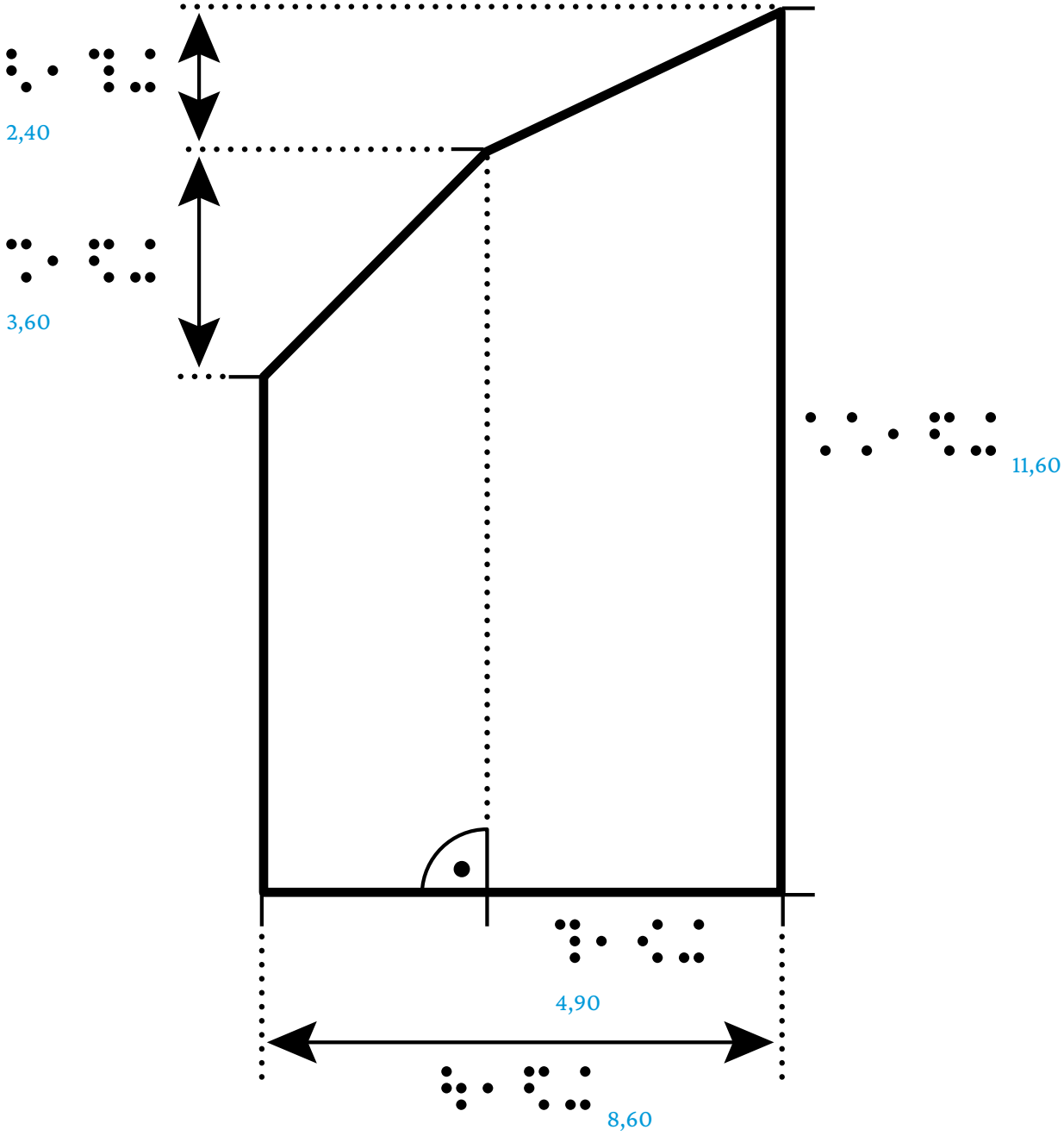
MVÜA3

S.89 522 b)

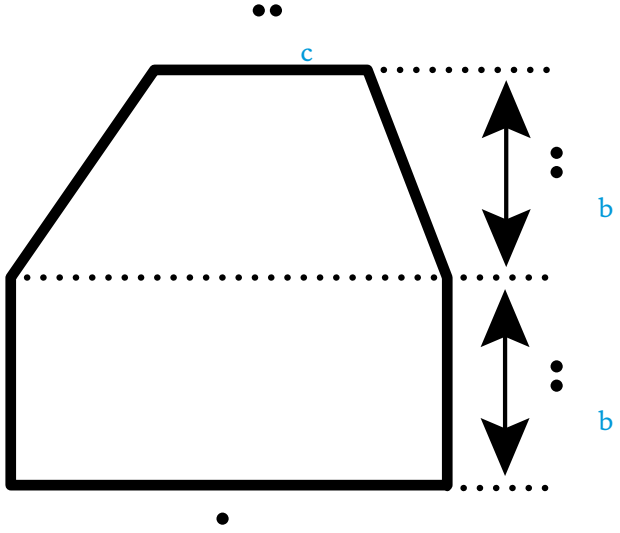


MVÜA3

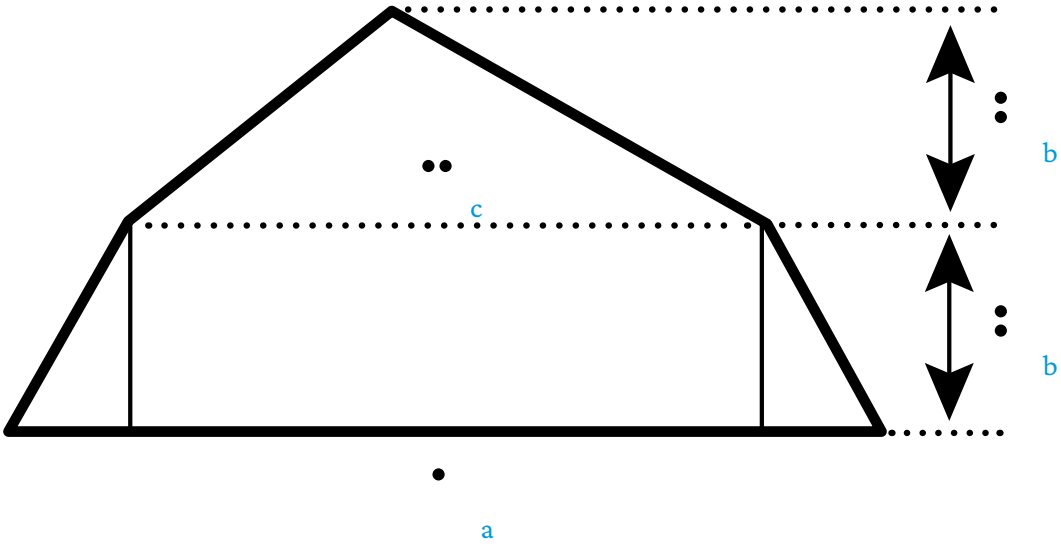
S.89 522 c)



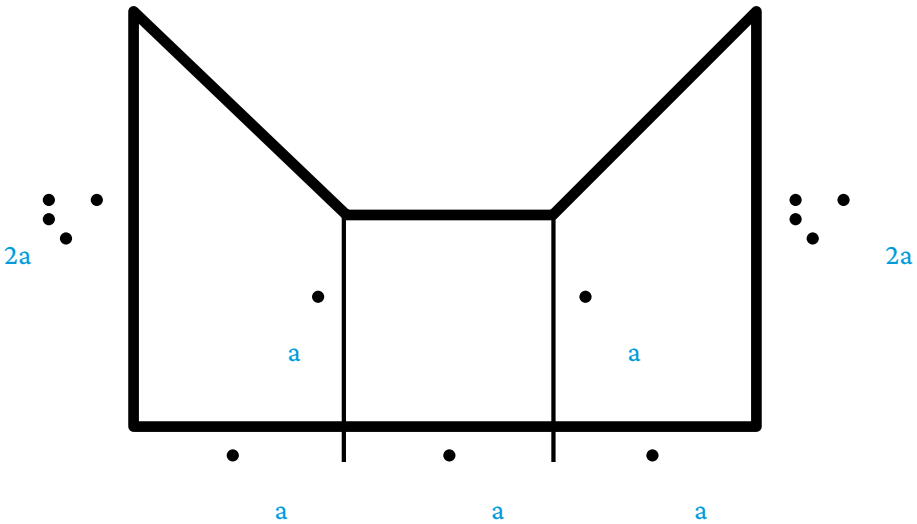
a)

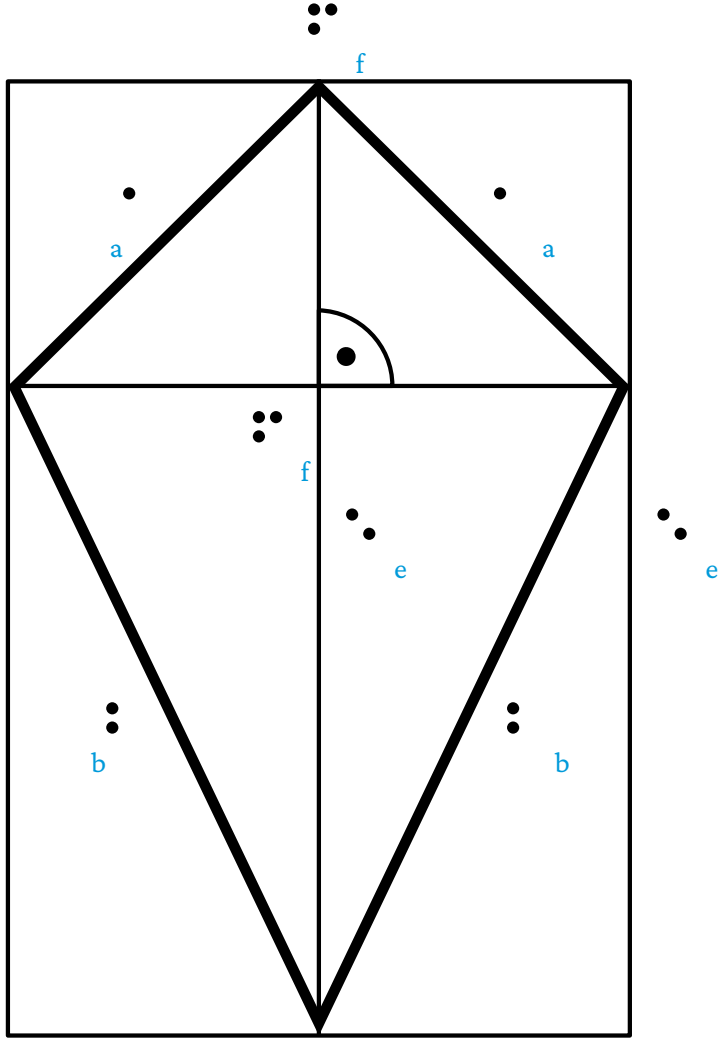


b)

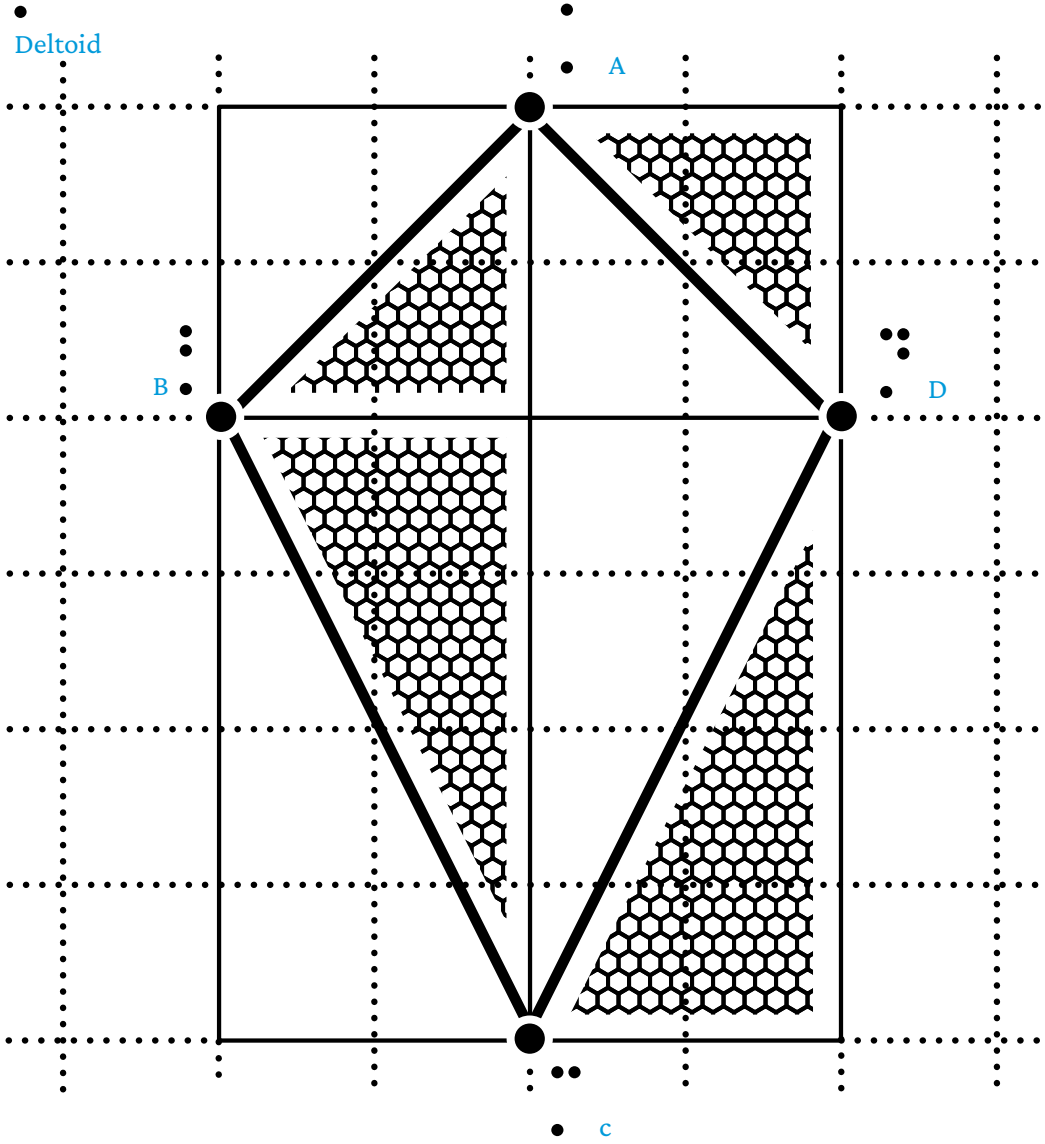


c)

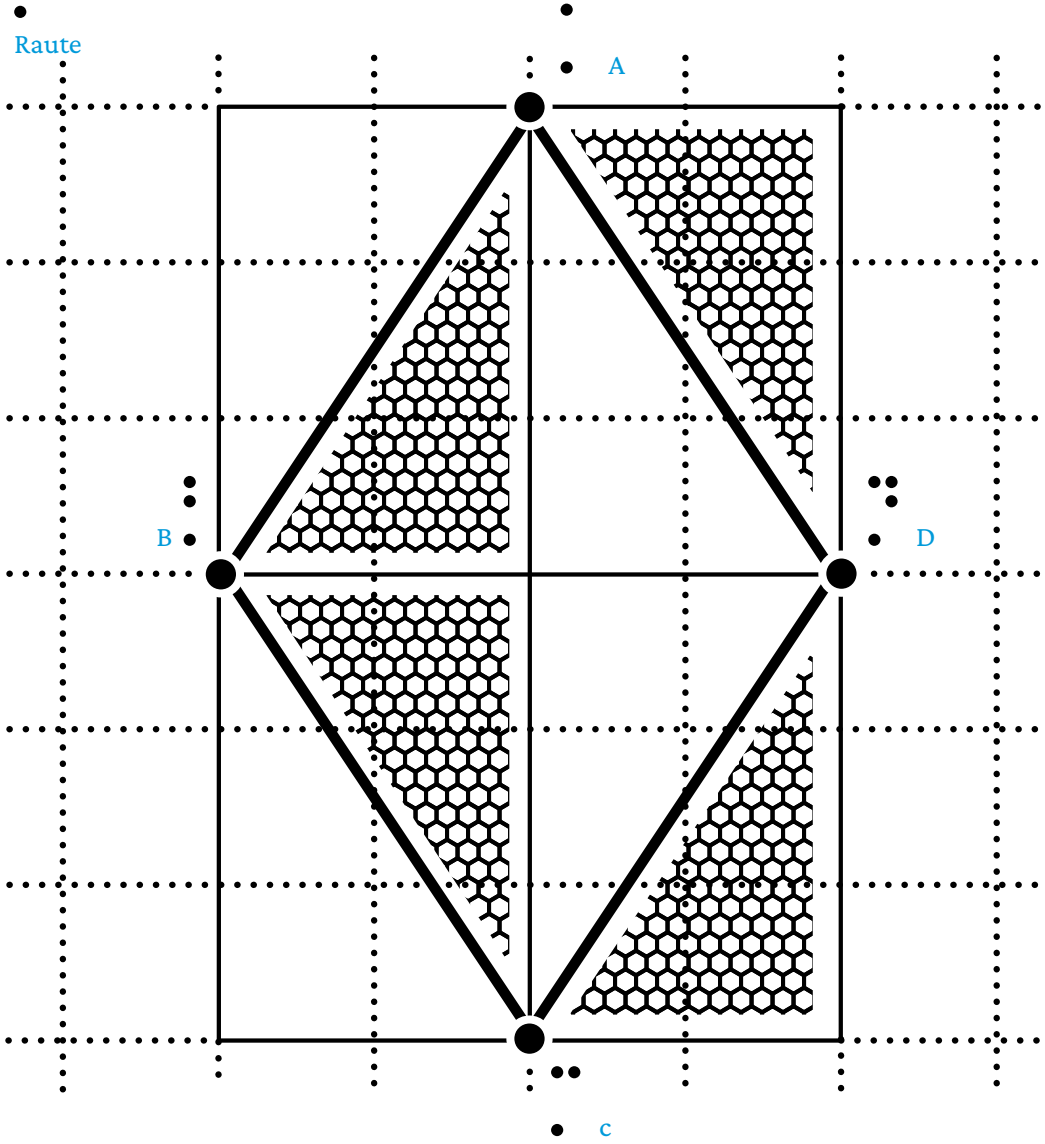




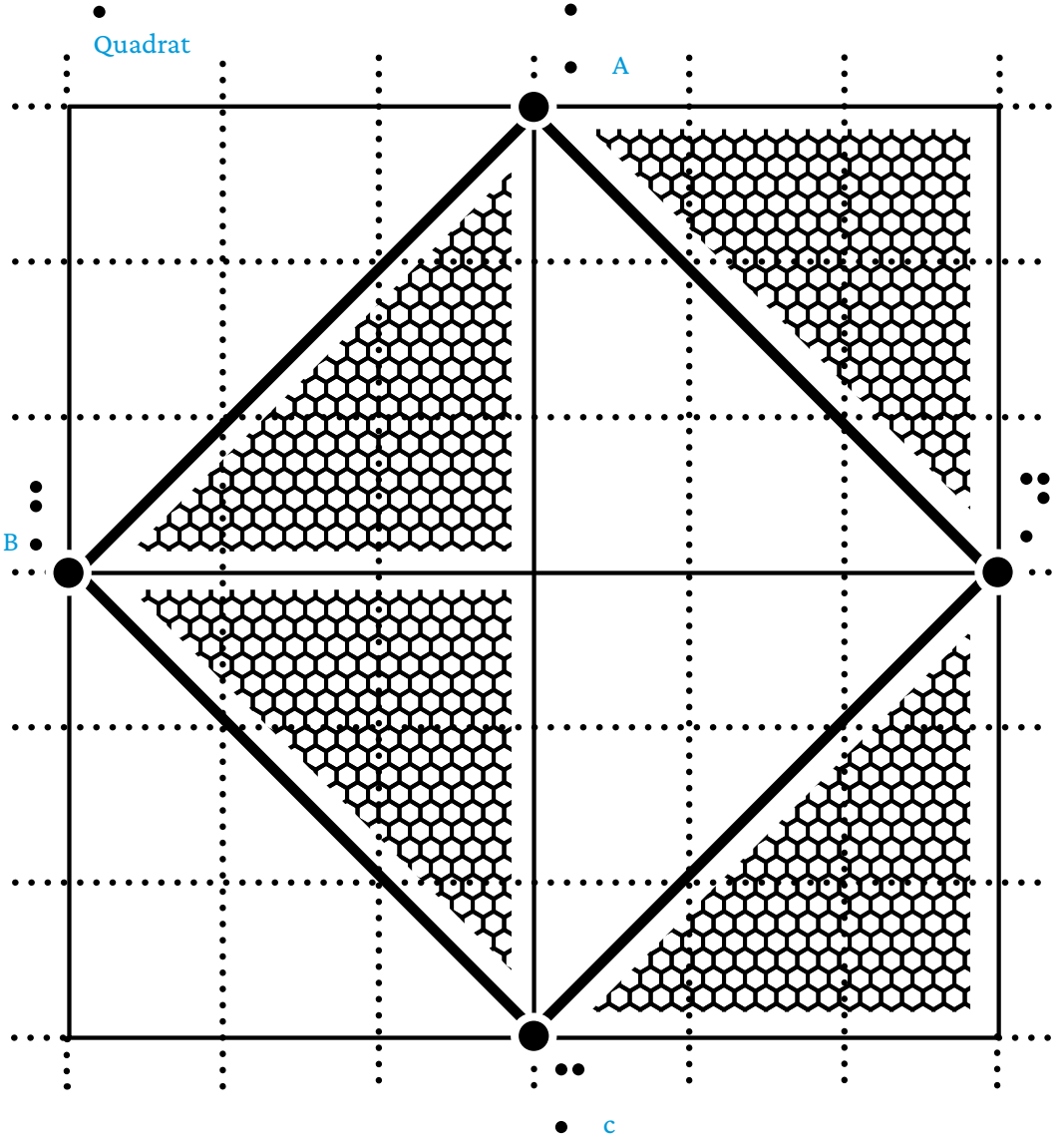
Deltoid



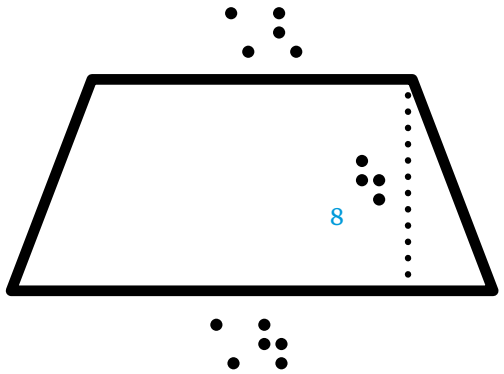
Raute



Quadrat

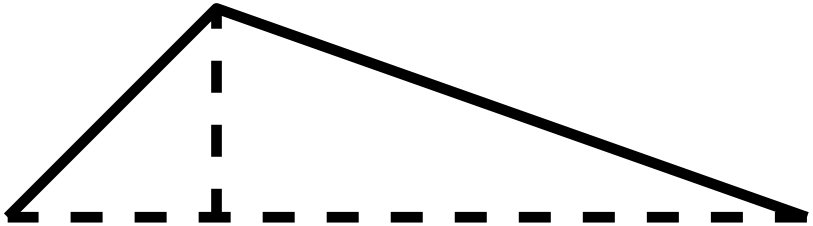


12

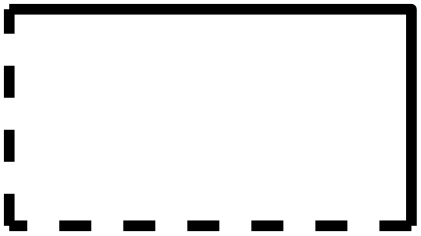


18

a)



b)



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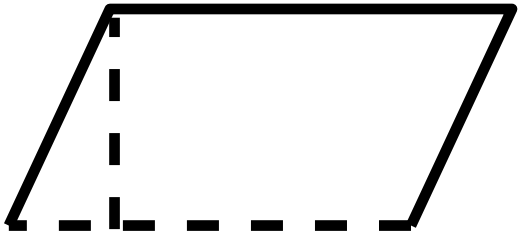
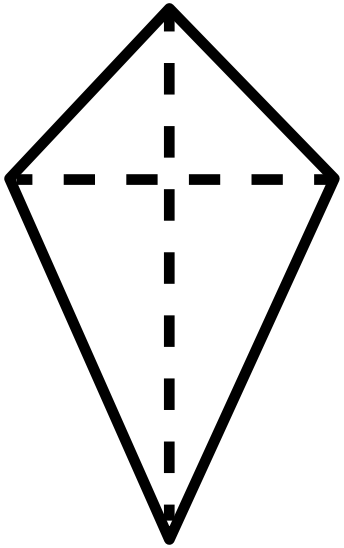
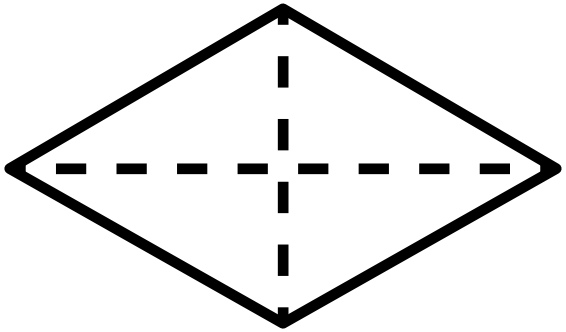


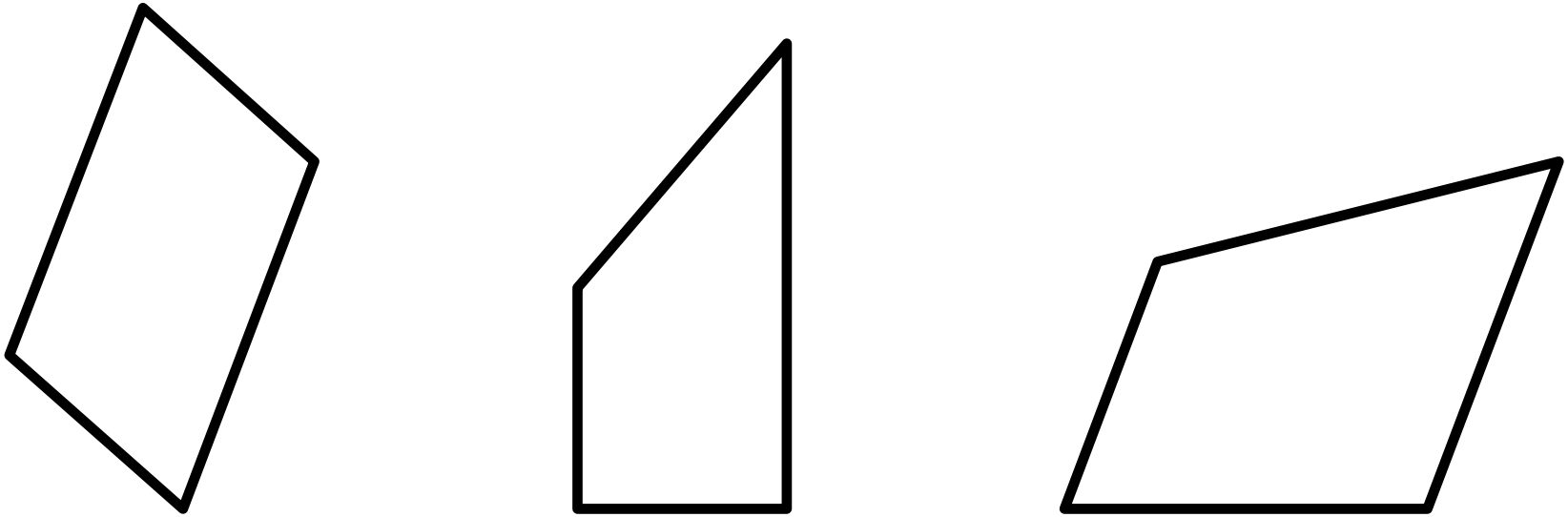
d)



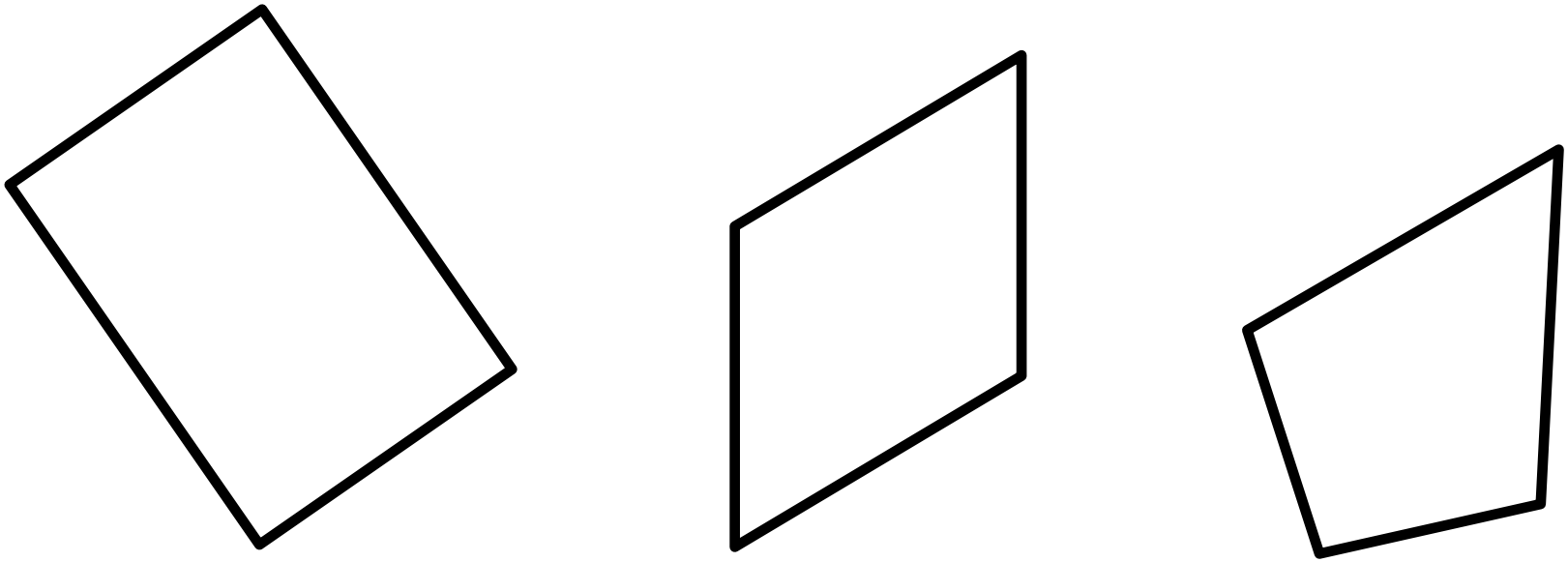
e)



a)

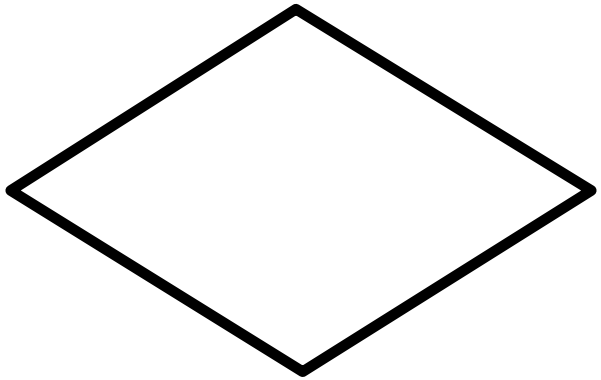


b)

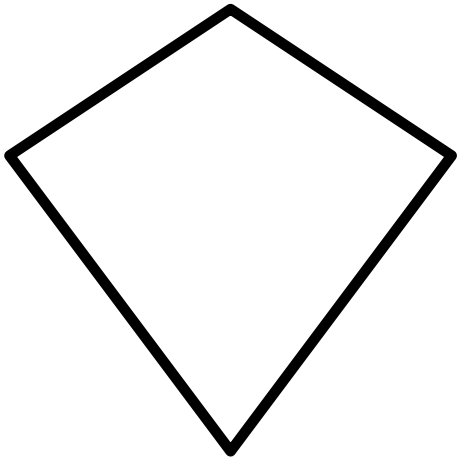


1)

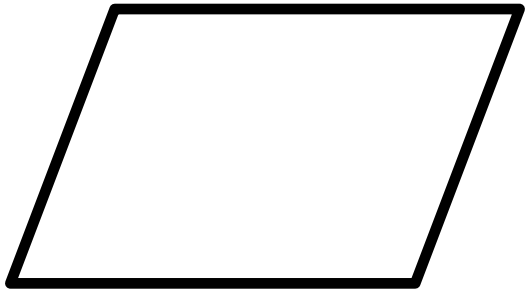
2)



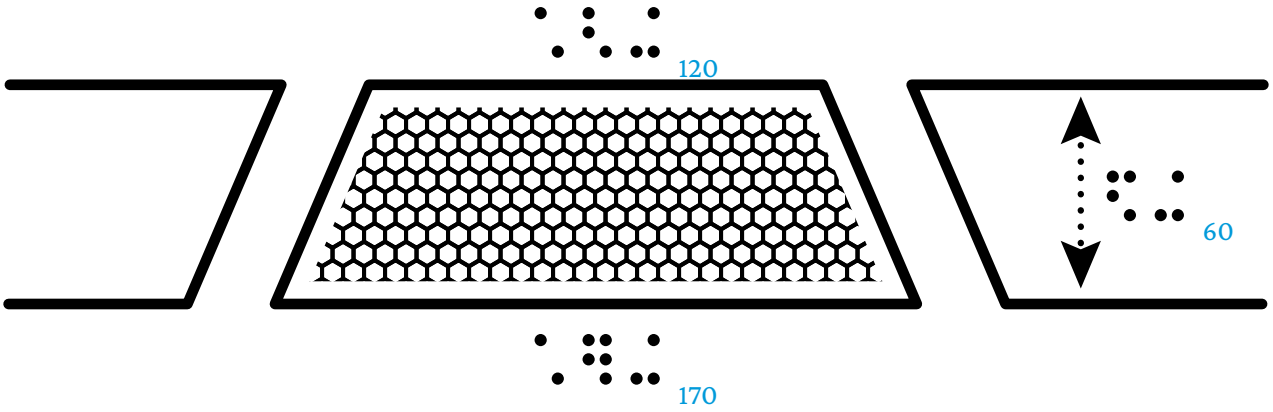
3)



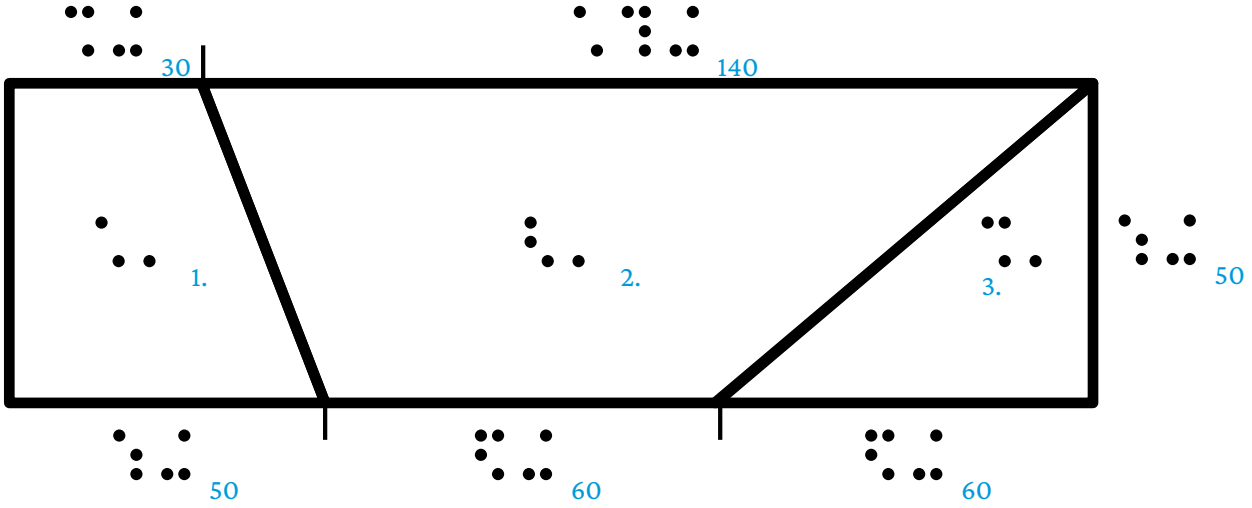
4)



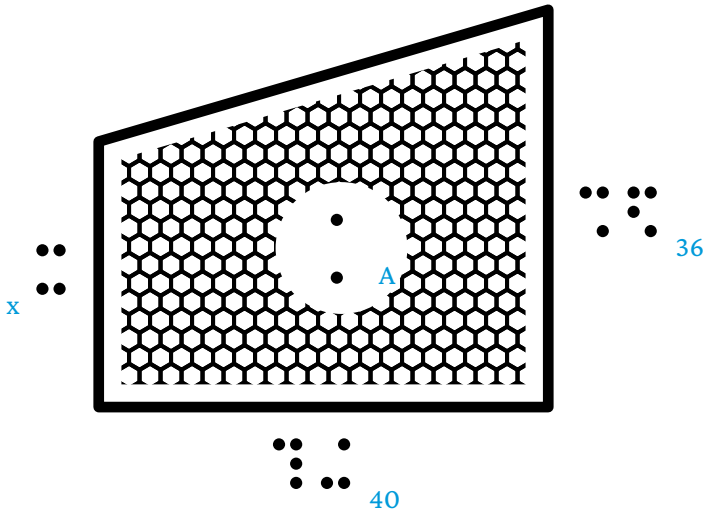
542



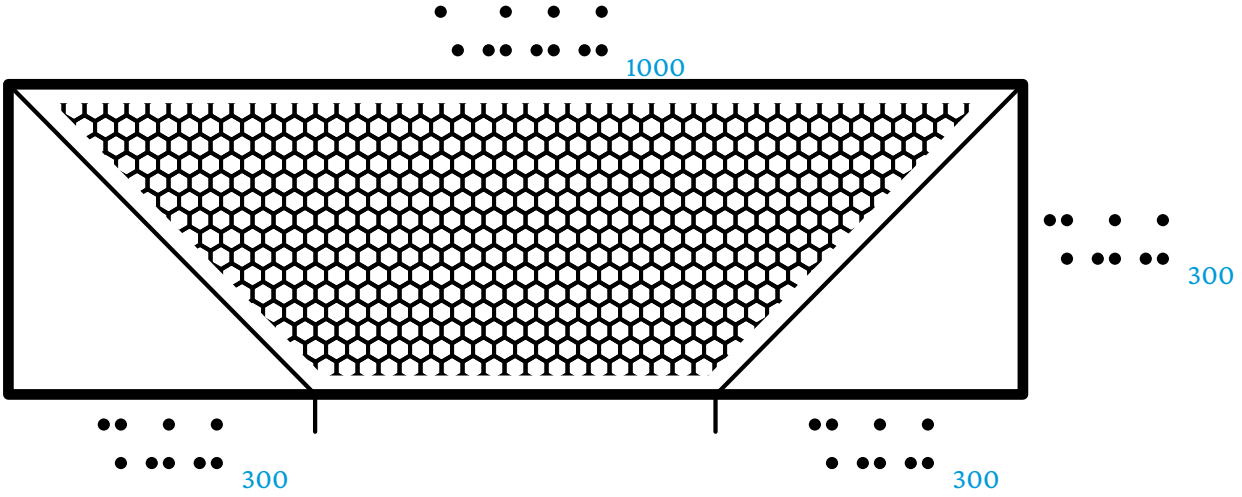
543



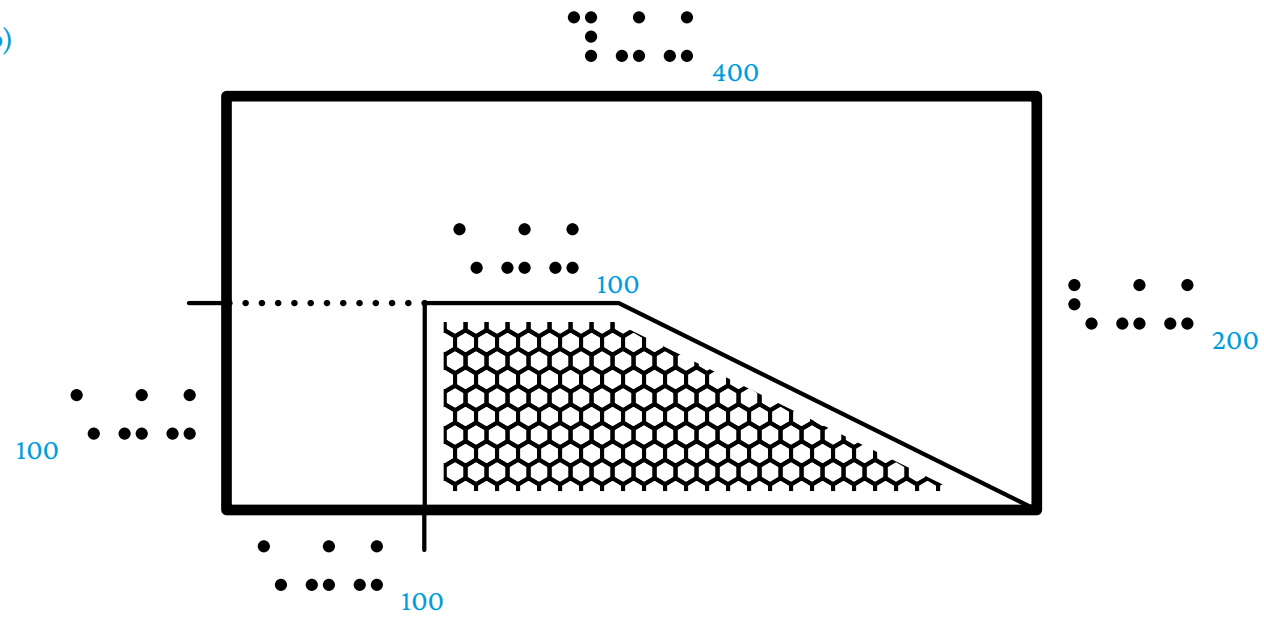
544



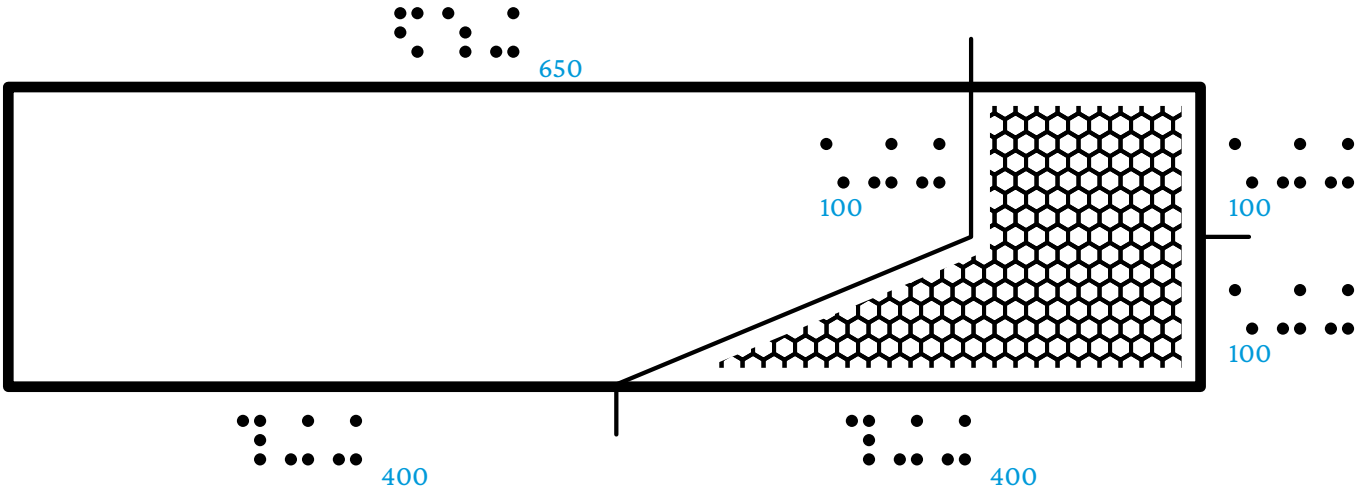
a)



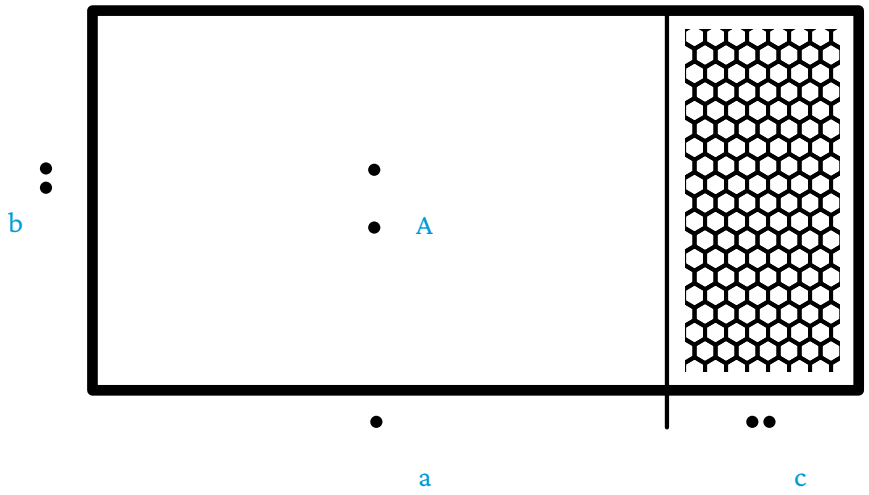
b)



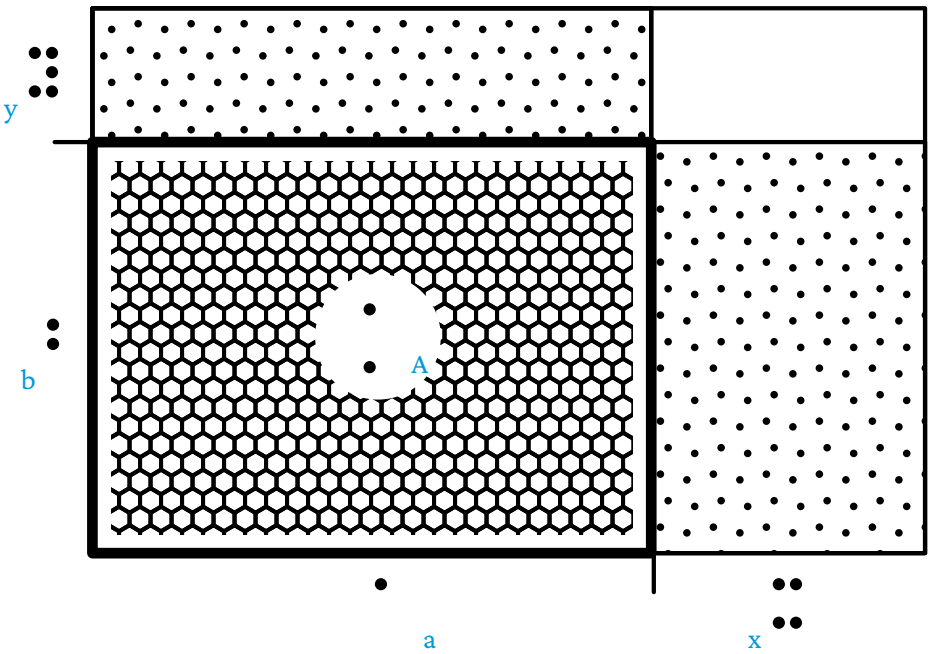
c)

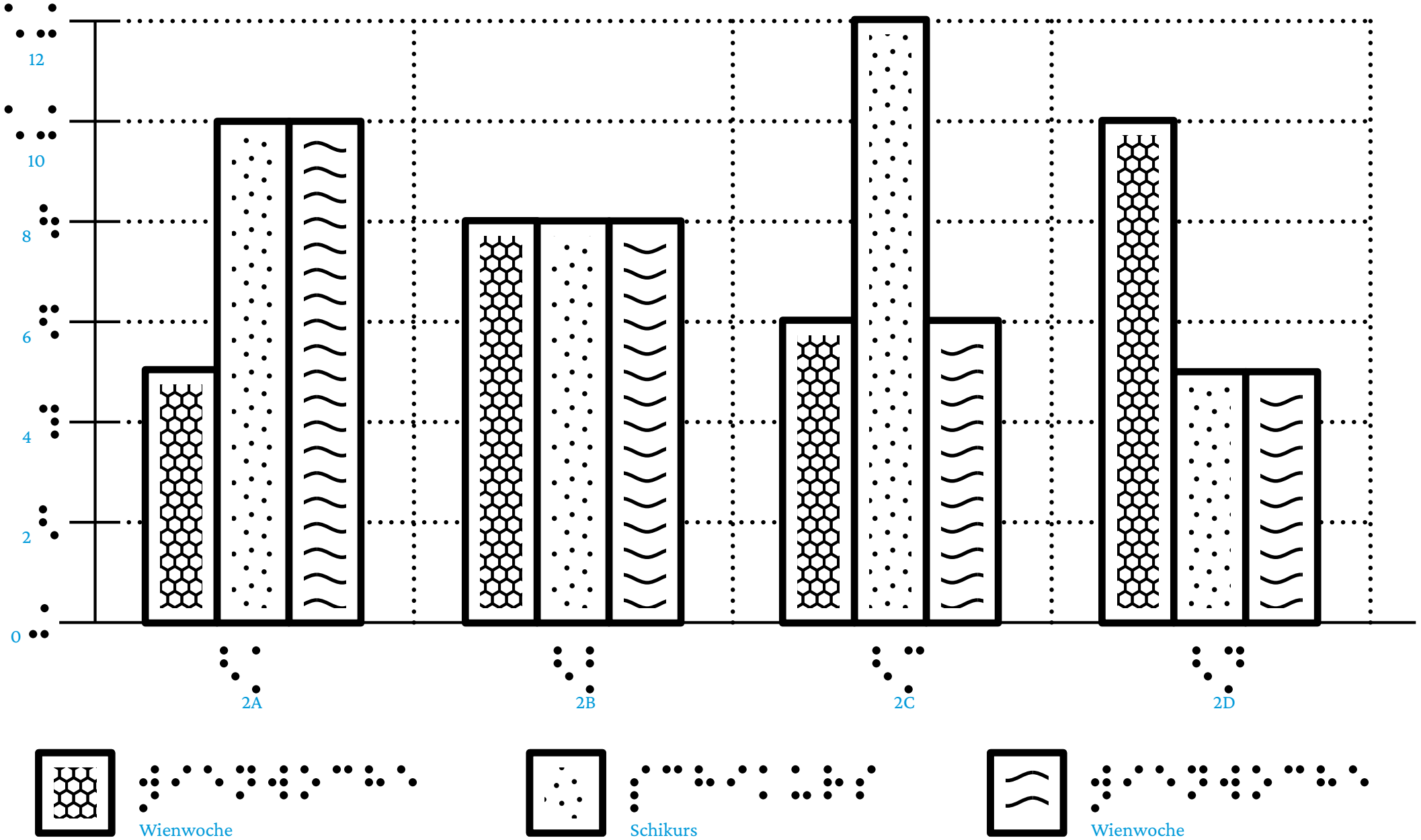


547

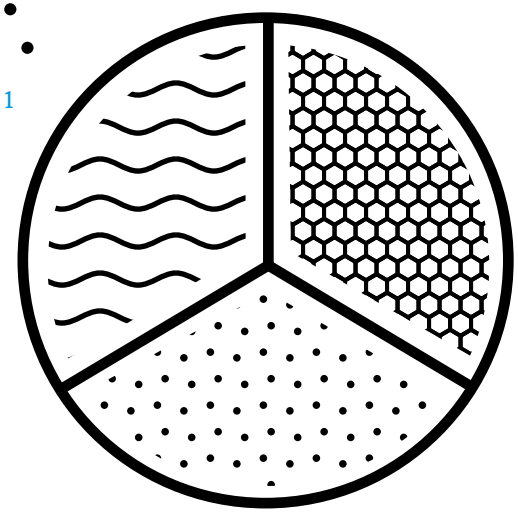


548

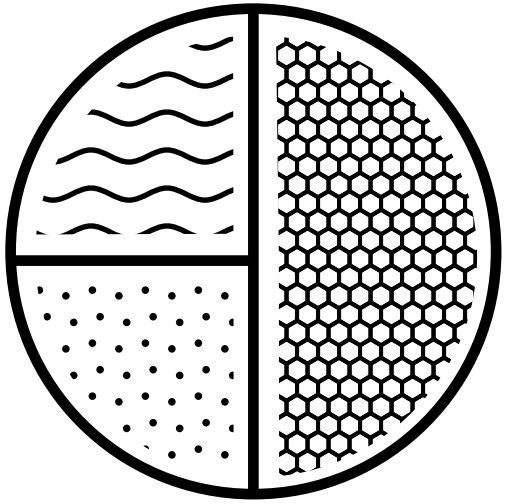



12
10
8
6
4
2
0
2A
2B
2C
2D
Wienwoche
Schikurs
Wienwoche

1



2



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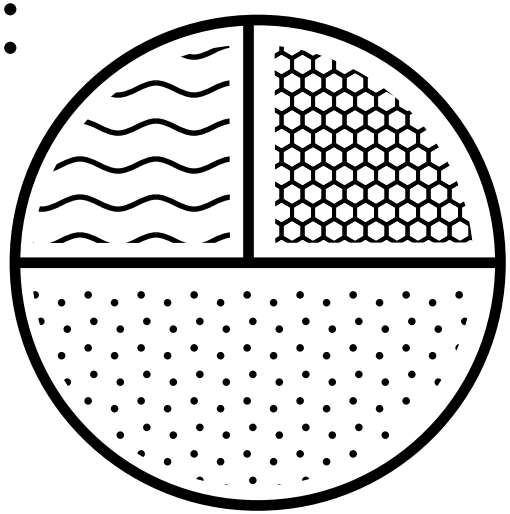

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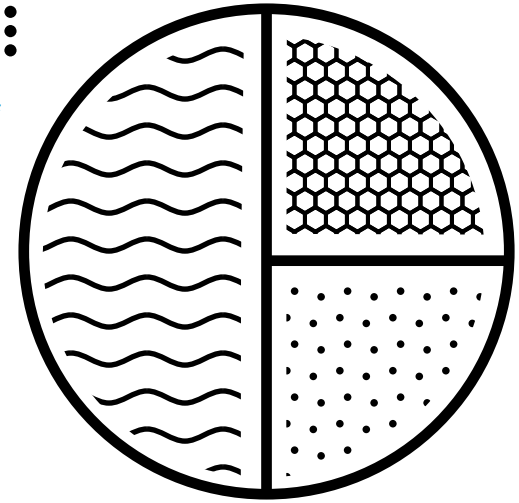
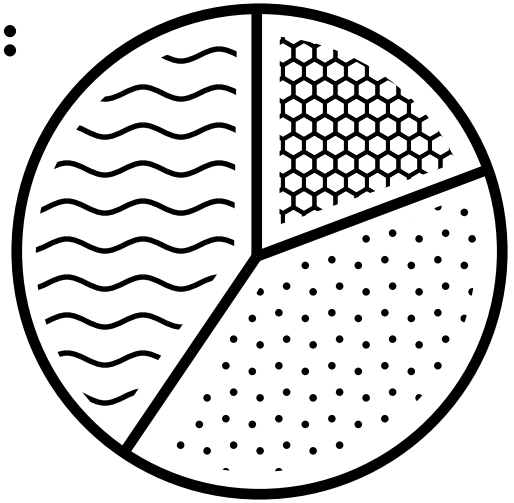
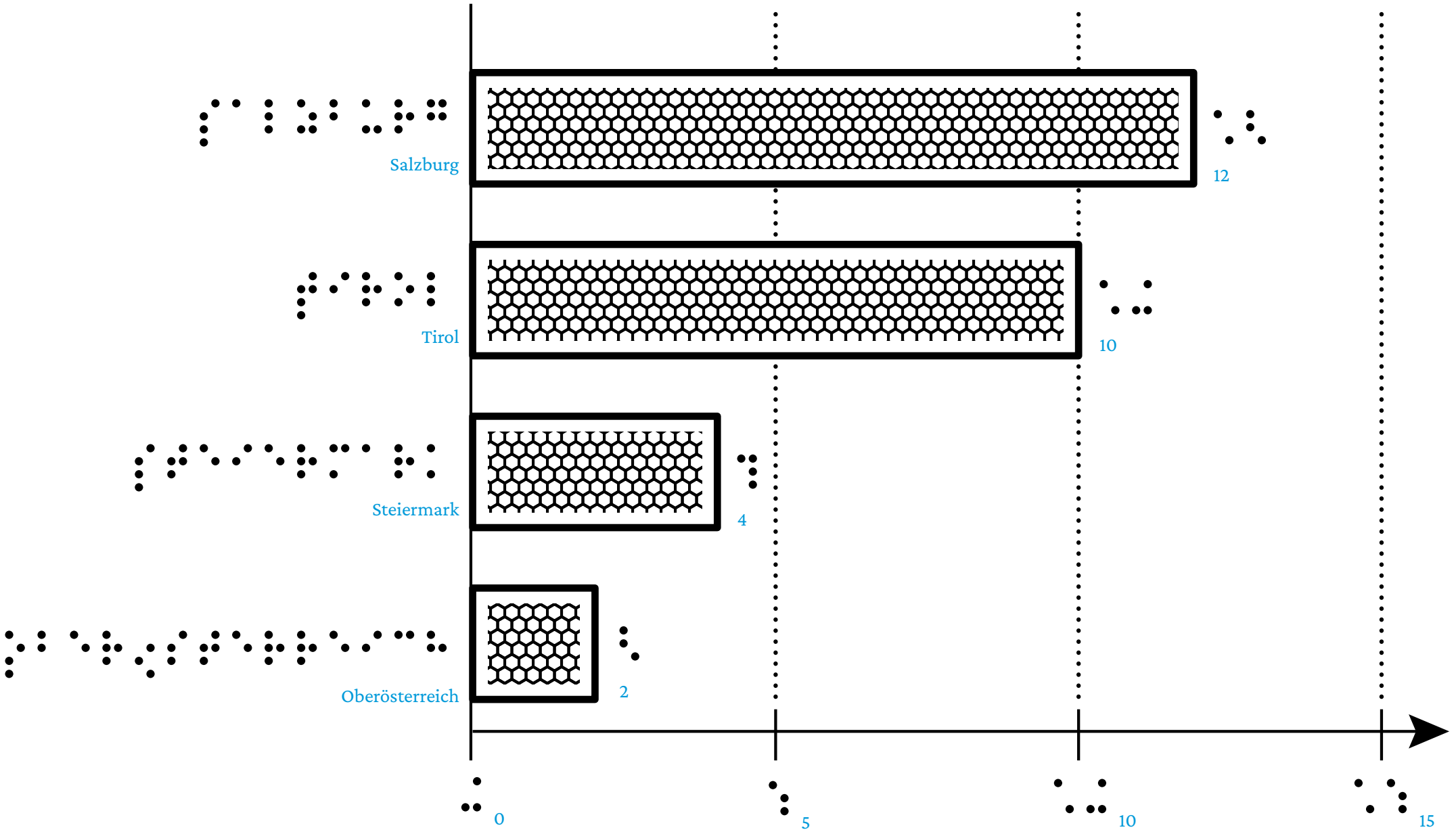


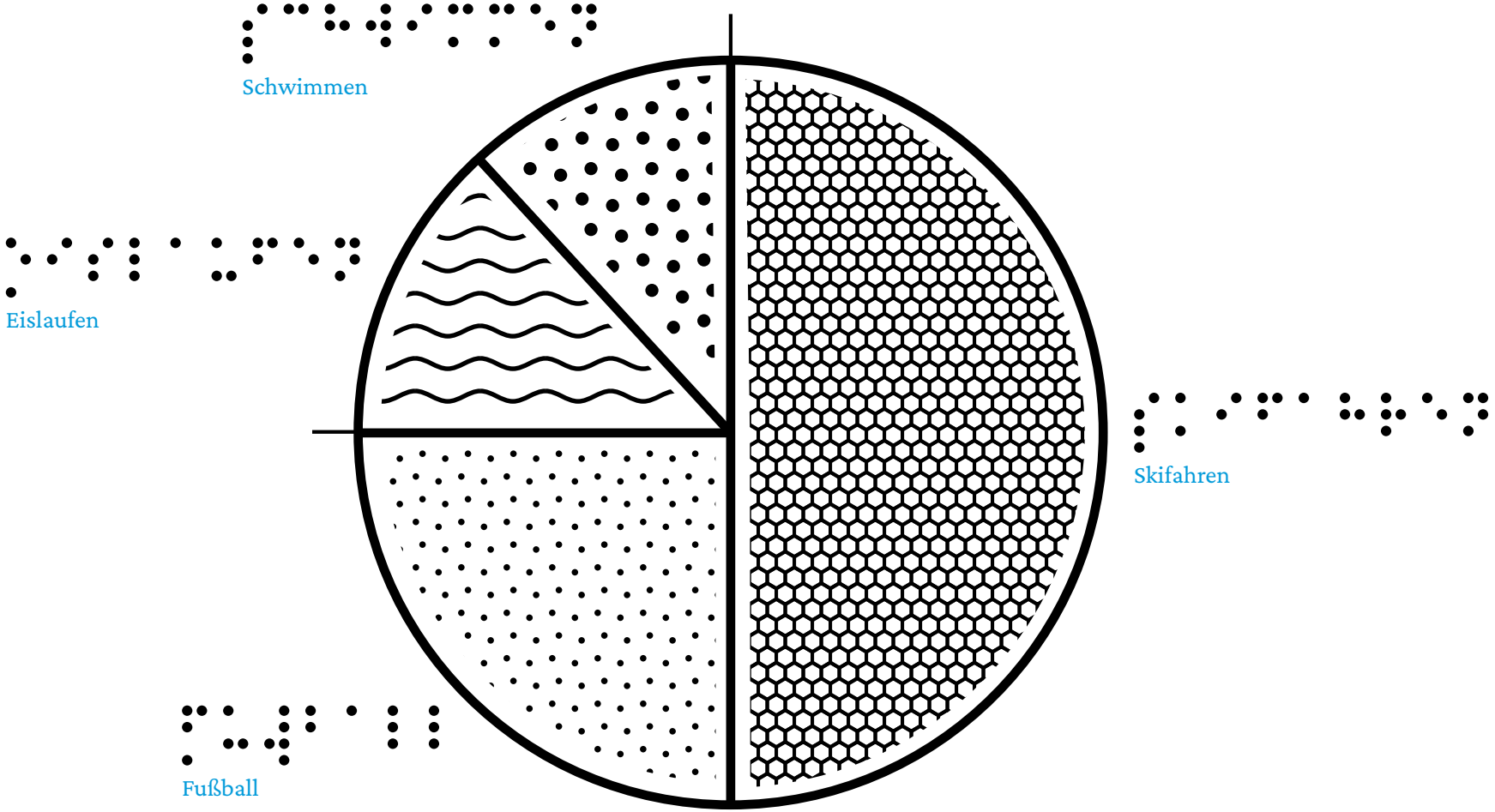
5



MVÜA3

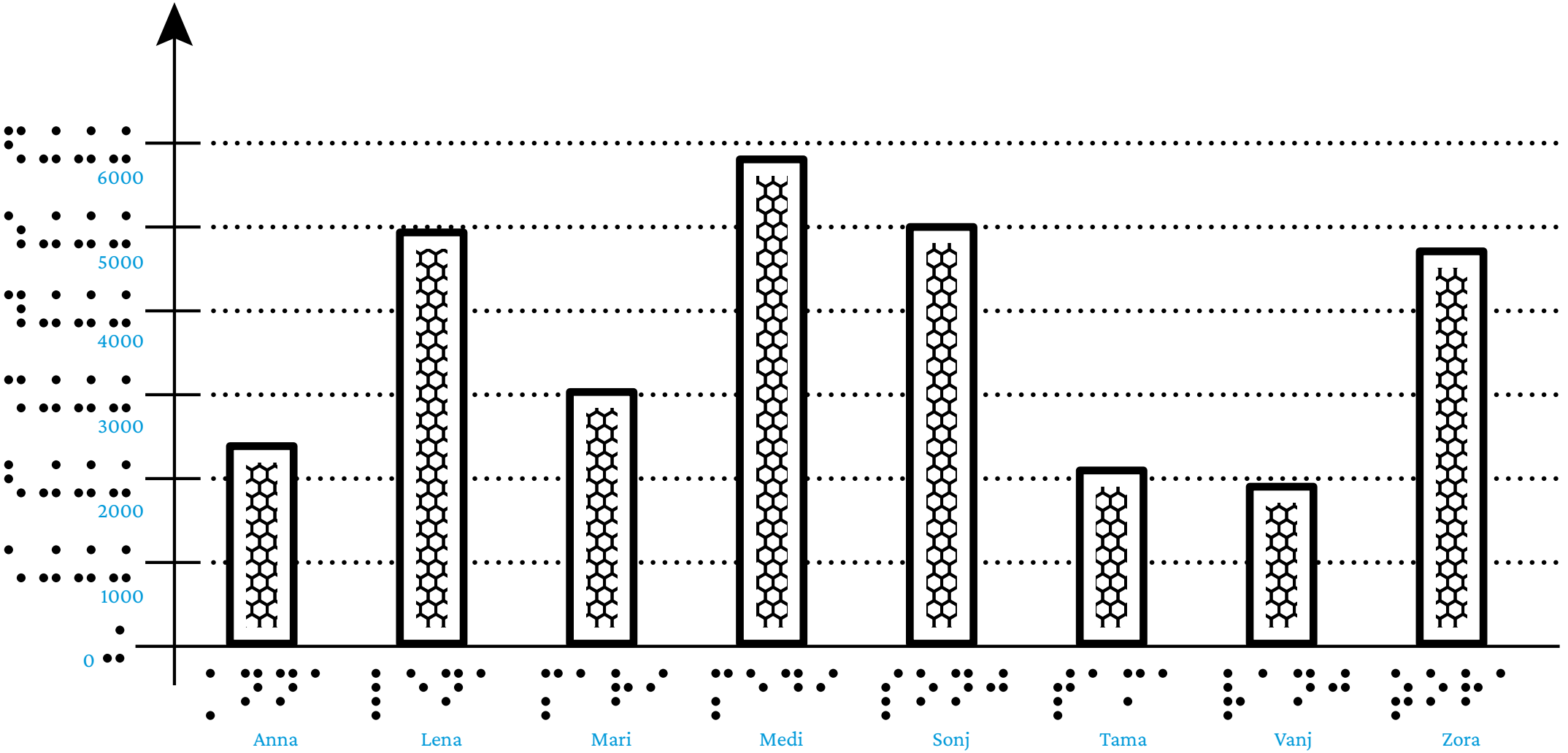
S.121 629




Schwimmen
Eislaufen
Skifahren
Fußball

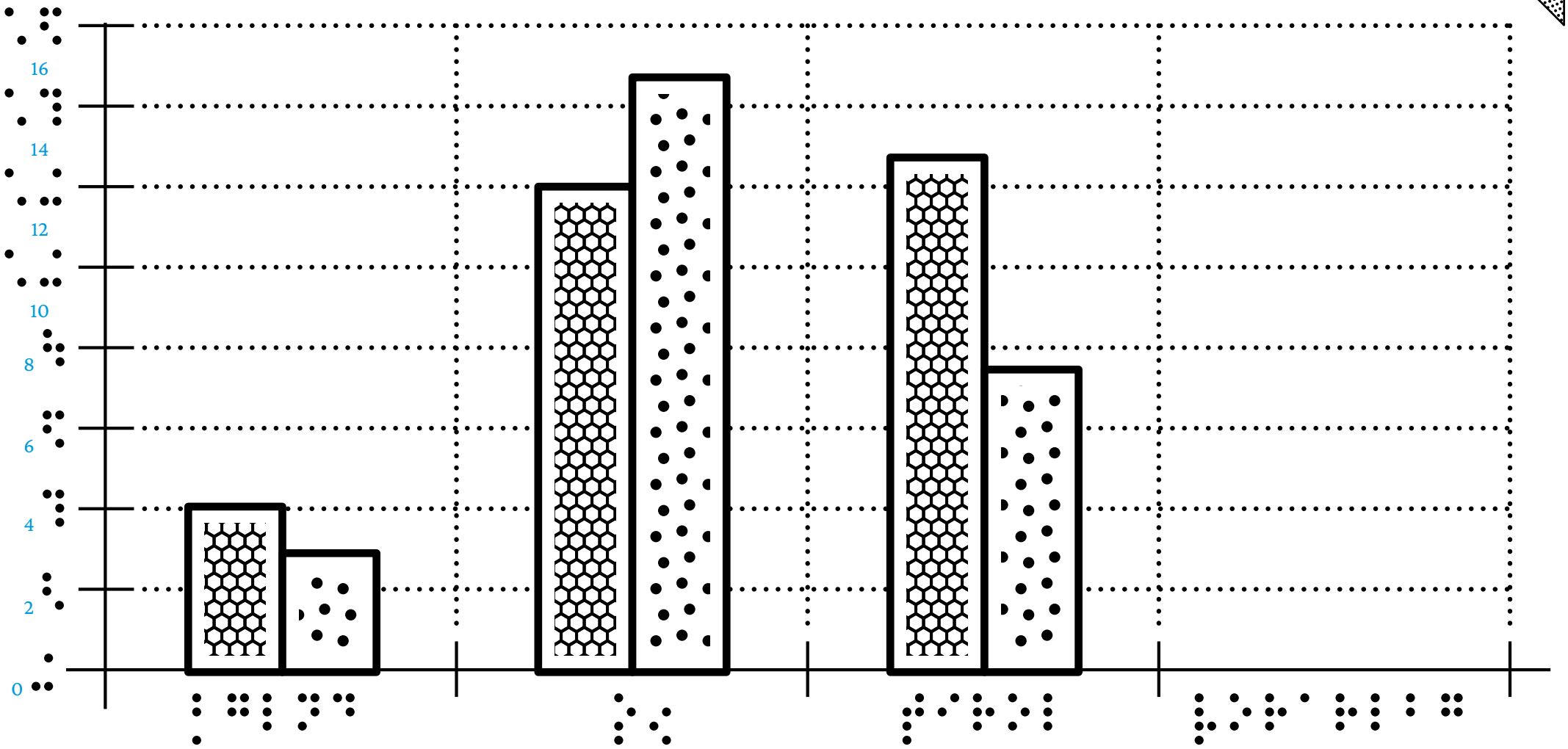
MVÜA3

S.127 643



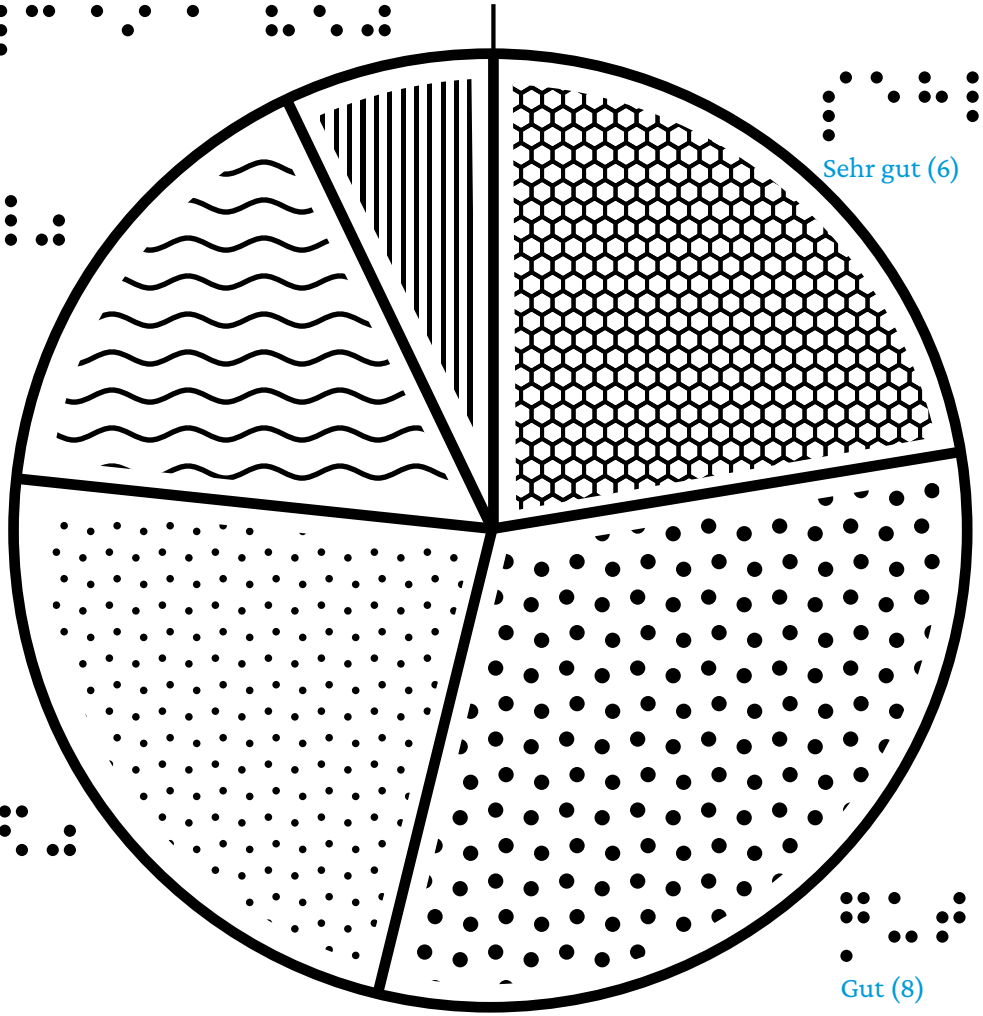
MVÜA3

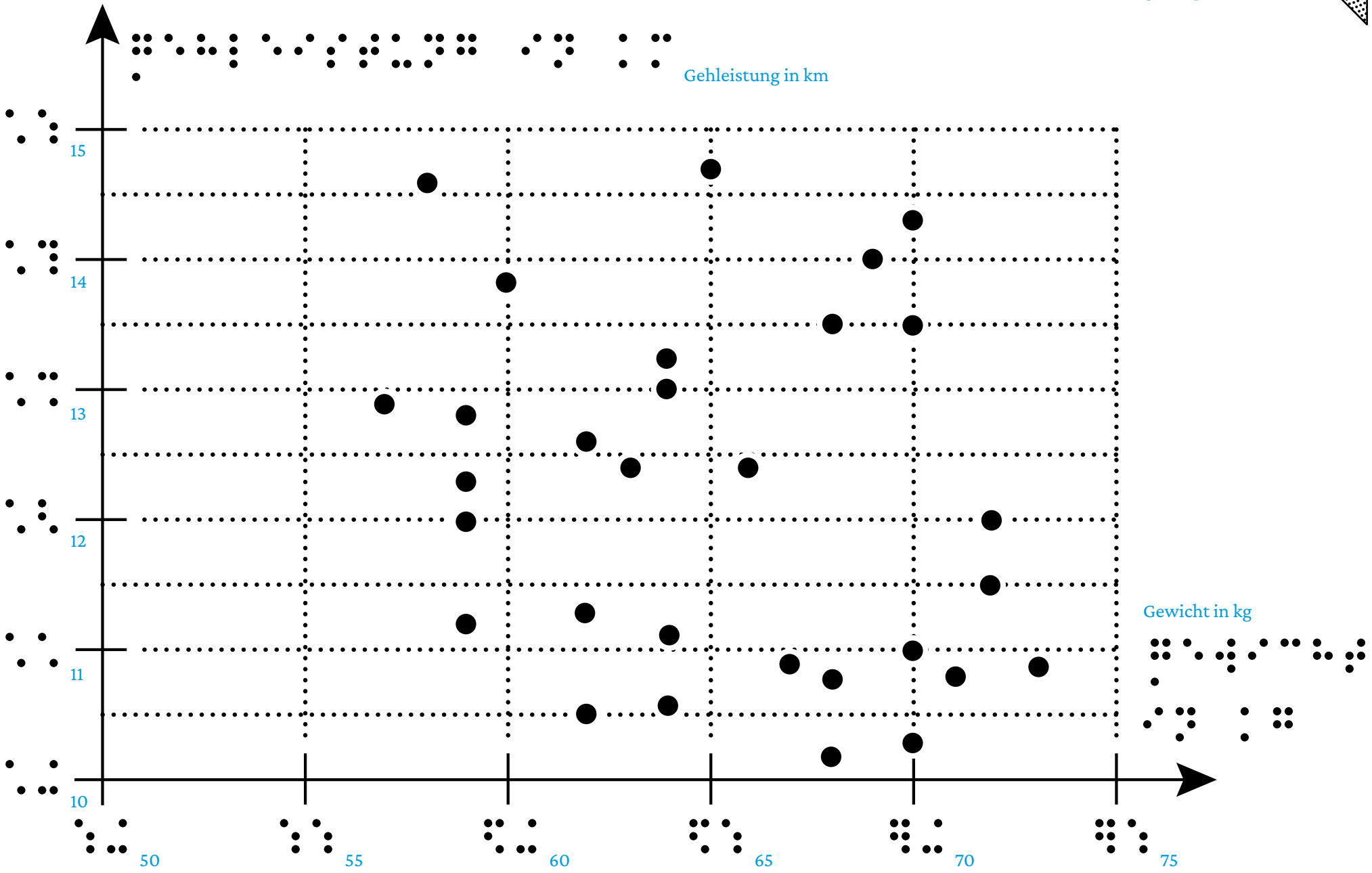
S.127 644

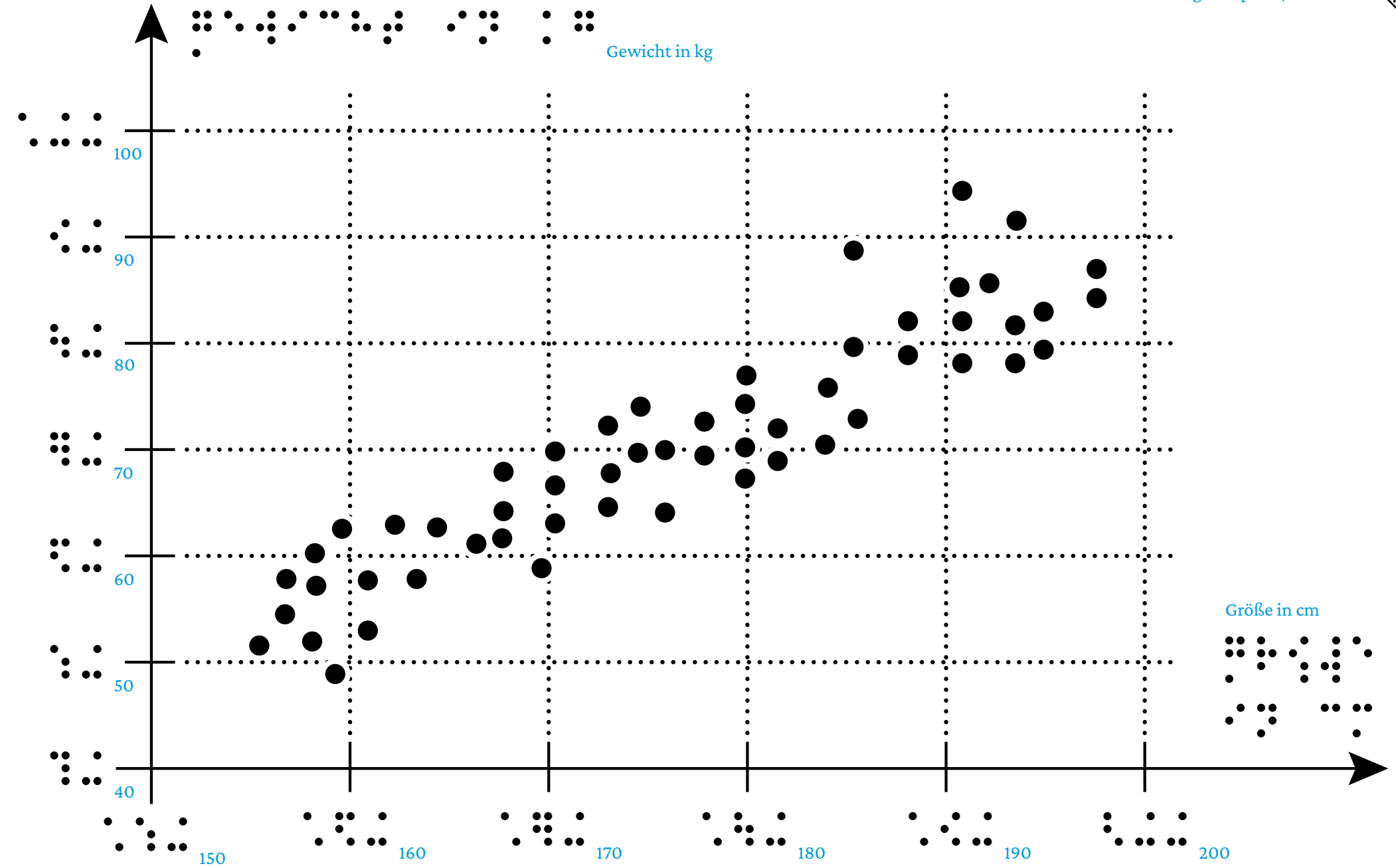


Fläche (in 1000 km^2)

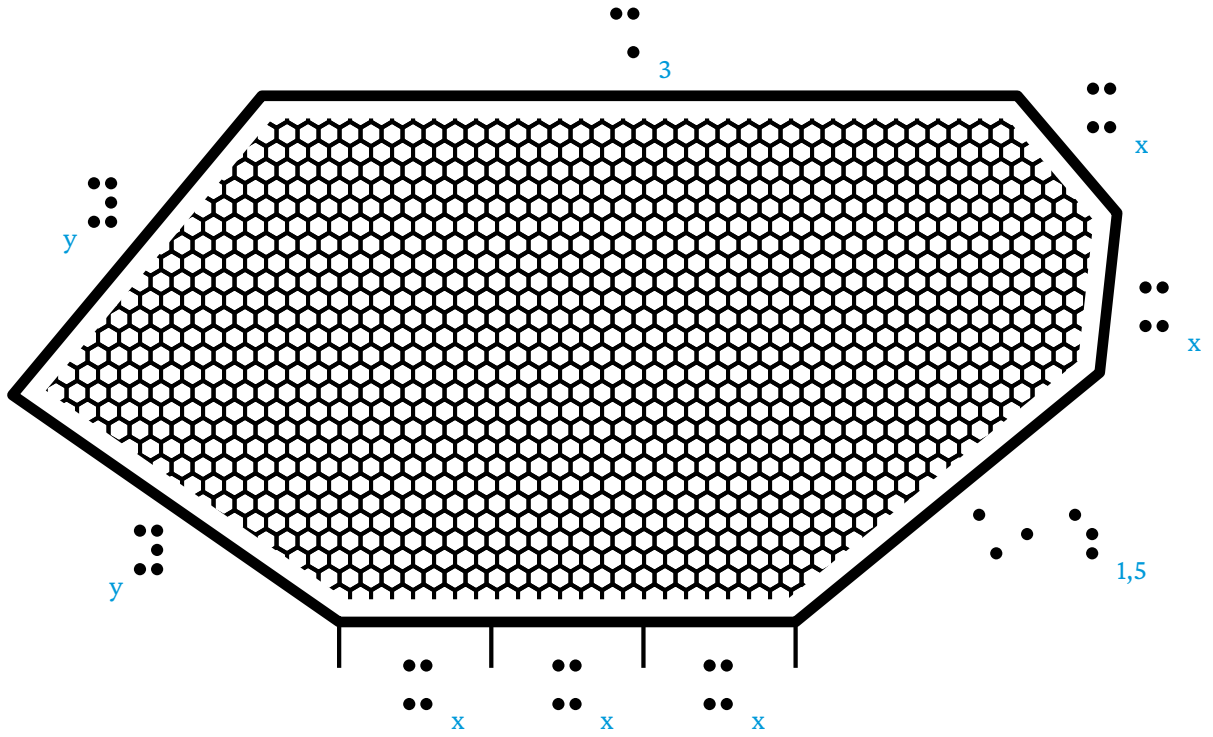
Einwohner (in 100000)


Nicht genügend (2)
Sehr gut (6)
Genügend (4)
Befriedigend (6)
Gut (8)

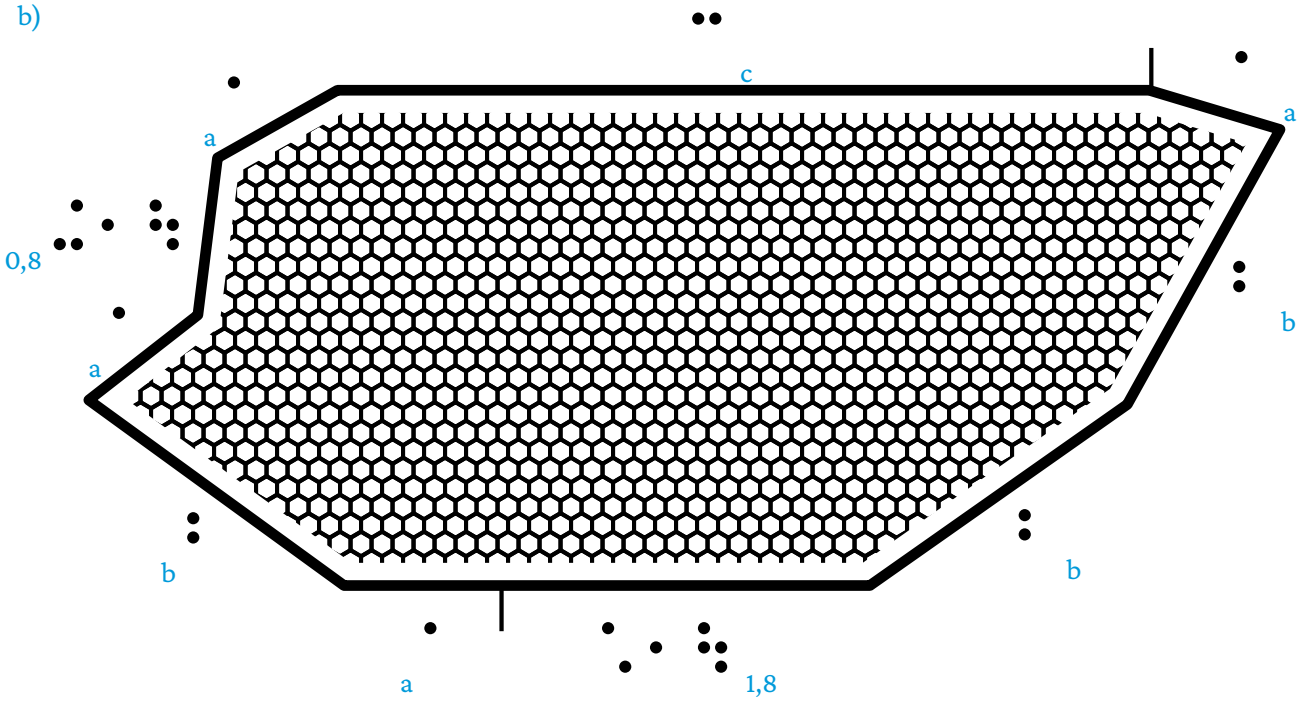

Gehleistung in km
15
14
13
12
11
10
Gewicht in kg
50
55
60
65
70
75


Gewicht in kg
100
90
80
70
60
50
40
Größe in cm
150
160
170
180
190
200

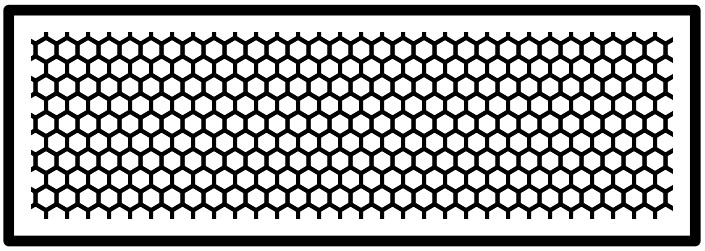
a)



b)



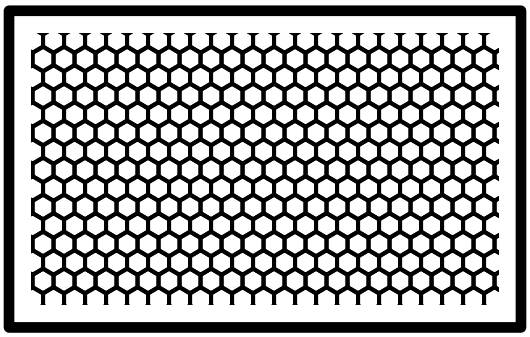
a)



2x

6x

b)

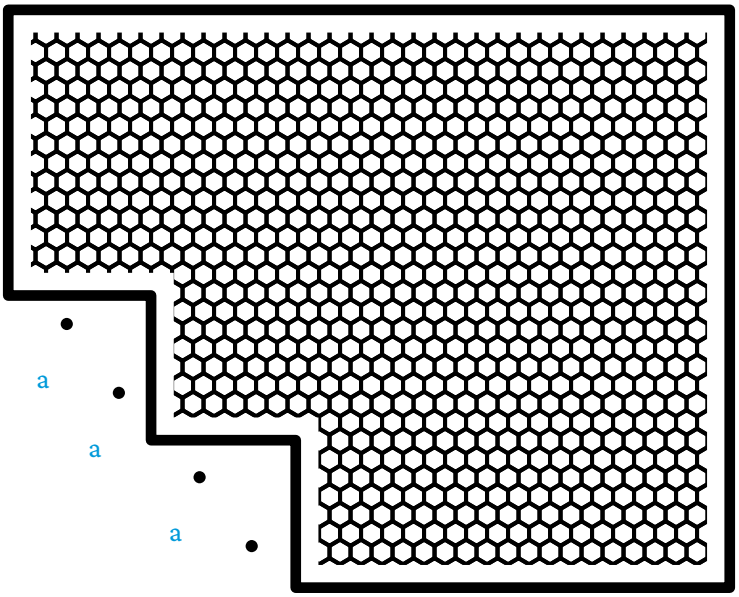


10x -1

4x +2

c)

2a



a

a

a

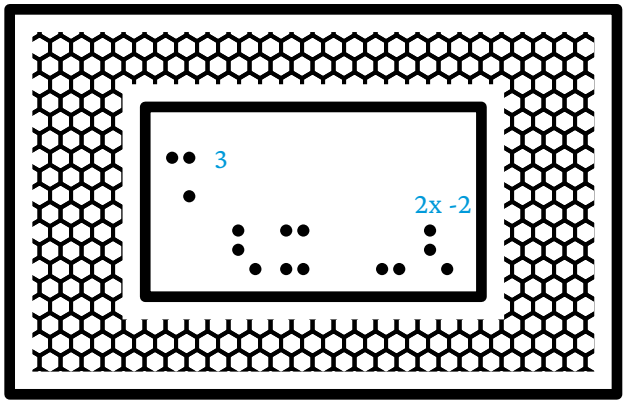
a

3a

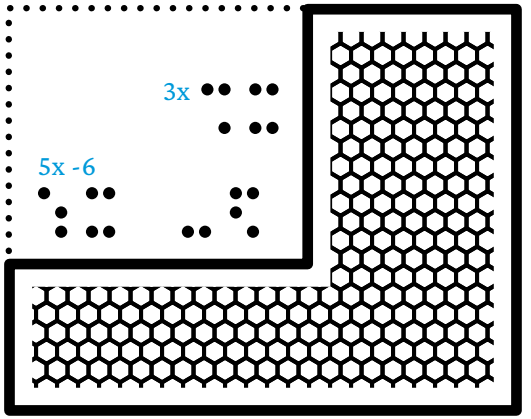
MVÜA3

S.183 927, 928

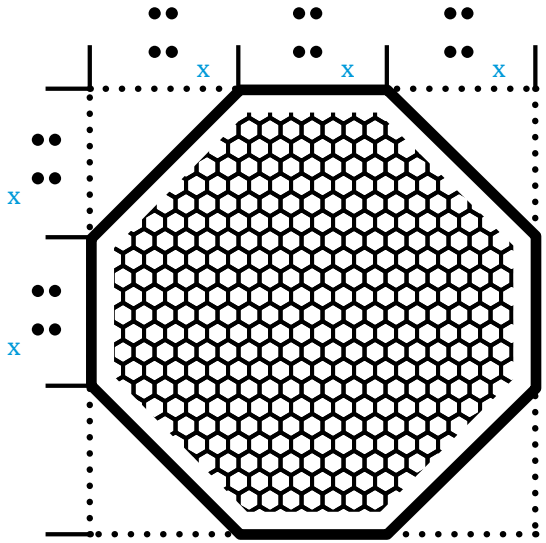
a)



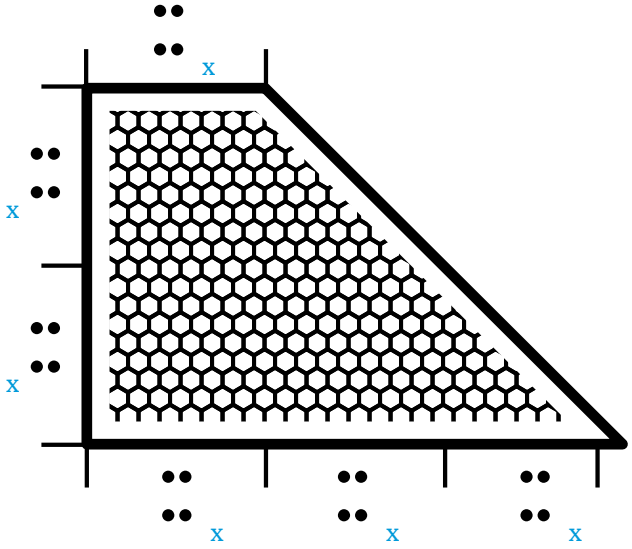
b)



c)



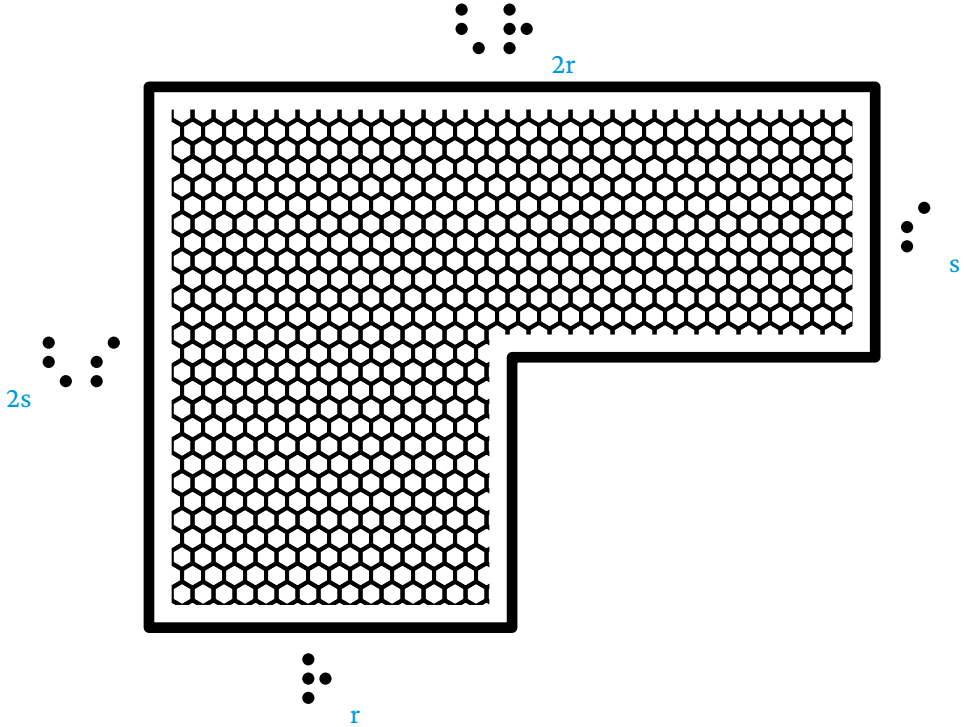
928



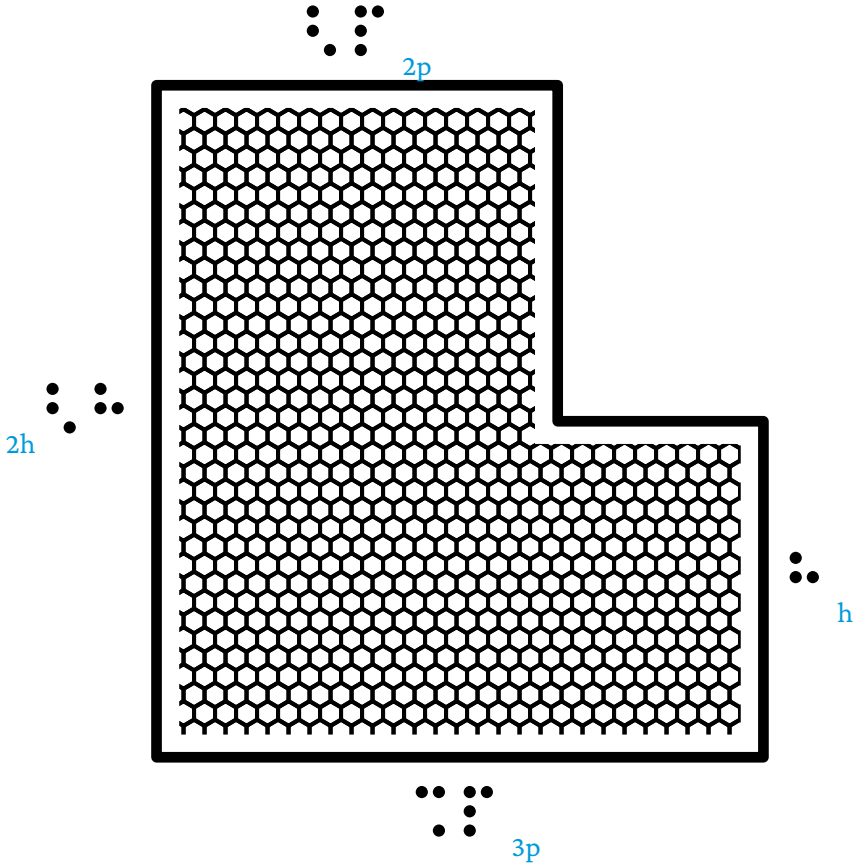
MVÜA3

S.206 1106

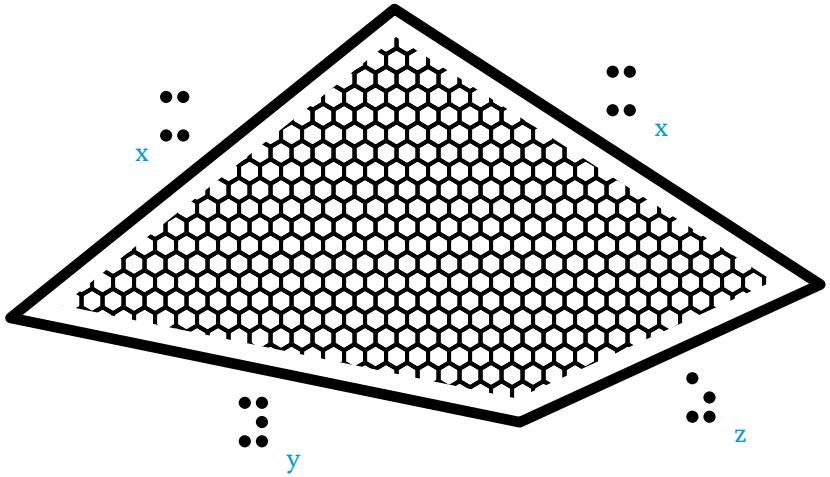
a)



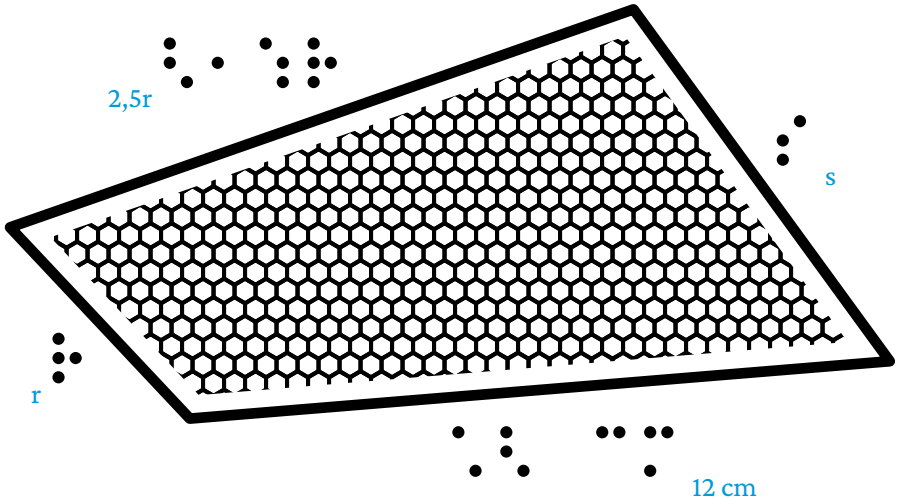
b)



a)



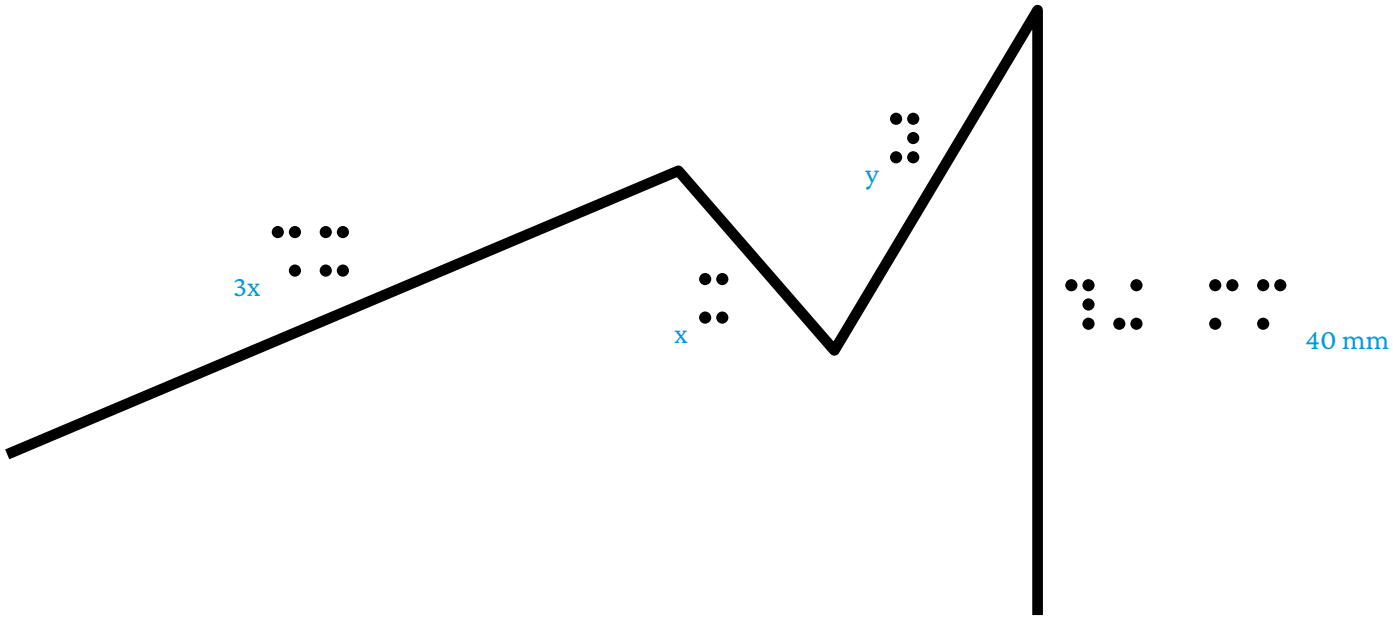
b)



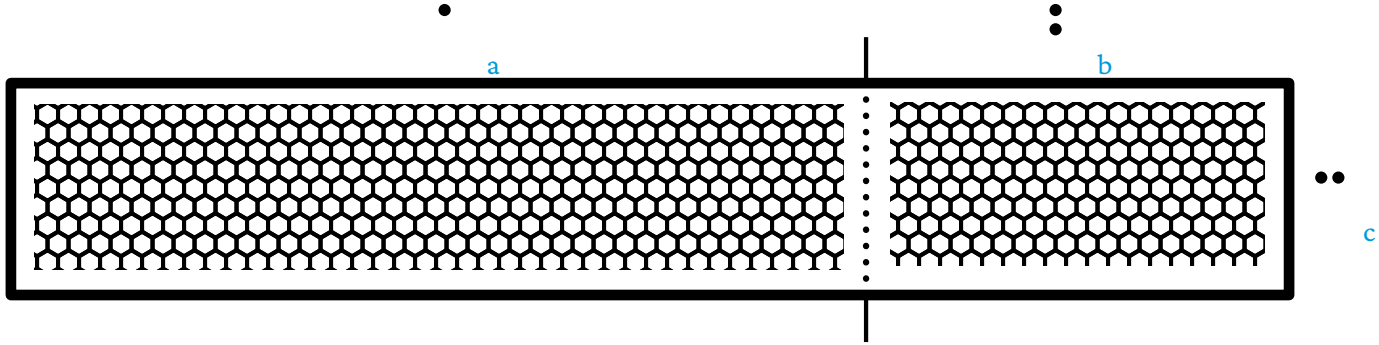
MVÜA3

S.206 1109 1110

1109



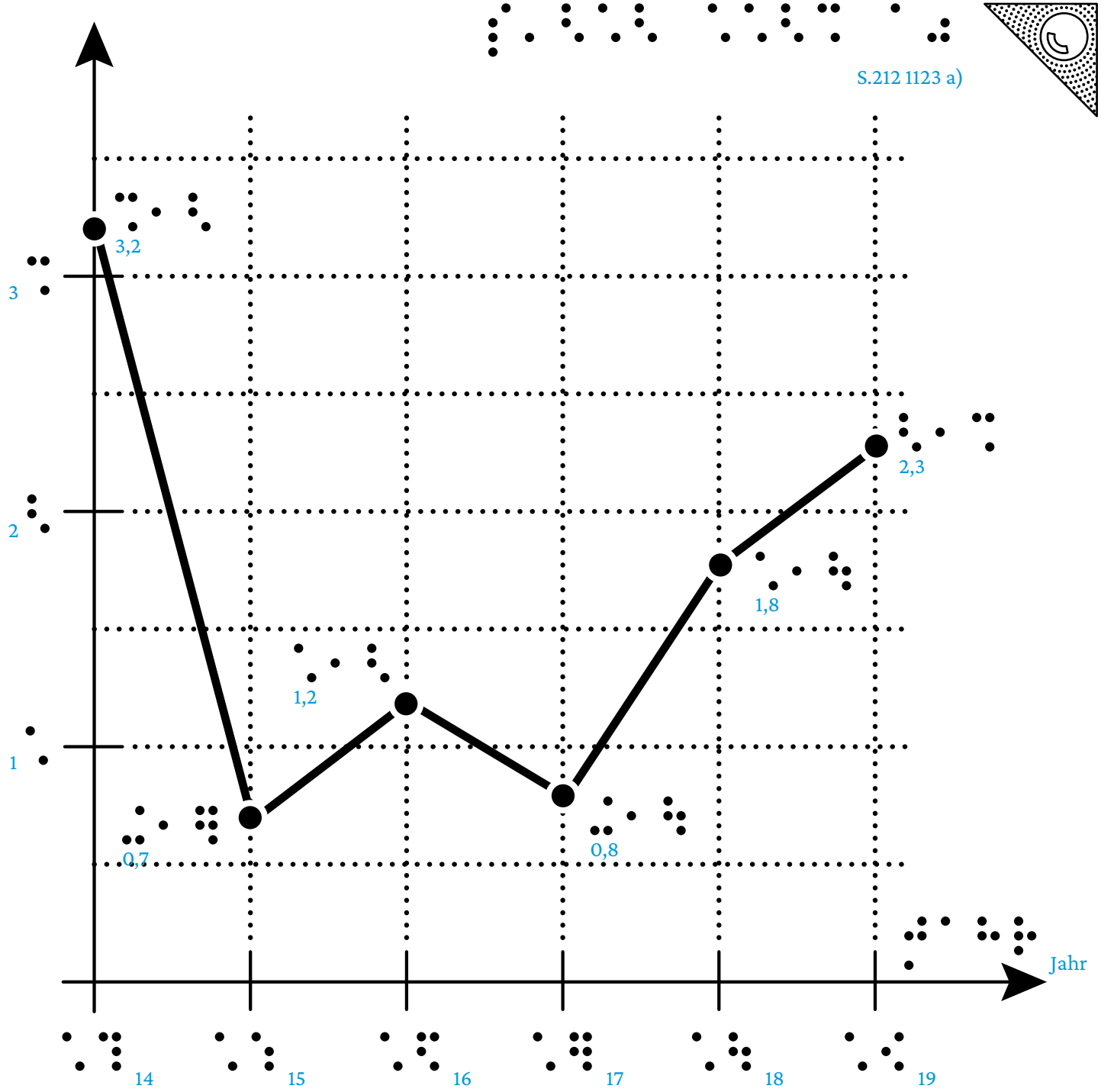
1110



MVÜA3

S.212 1123 a)

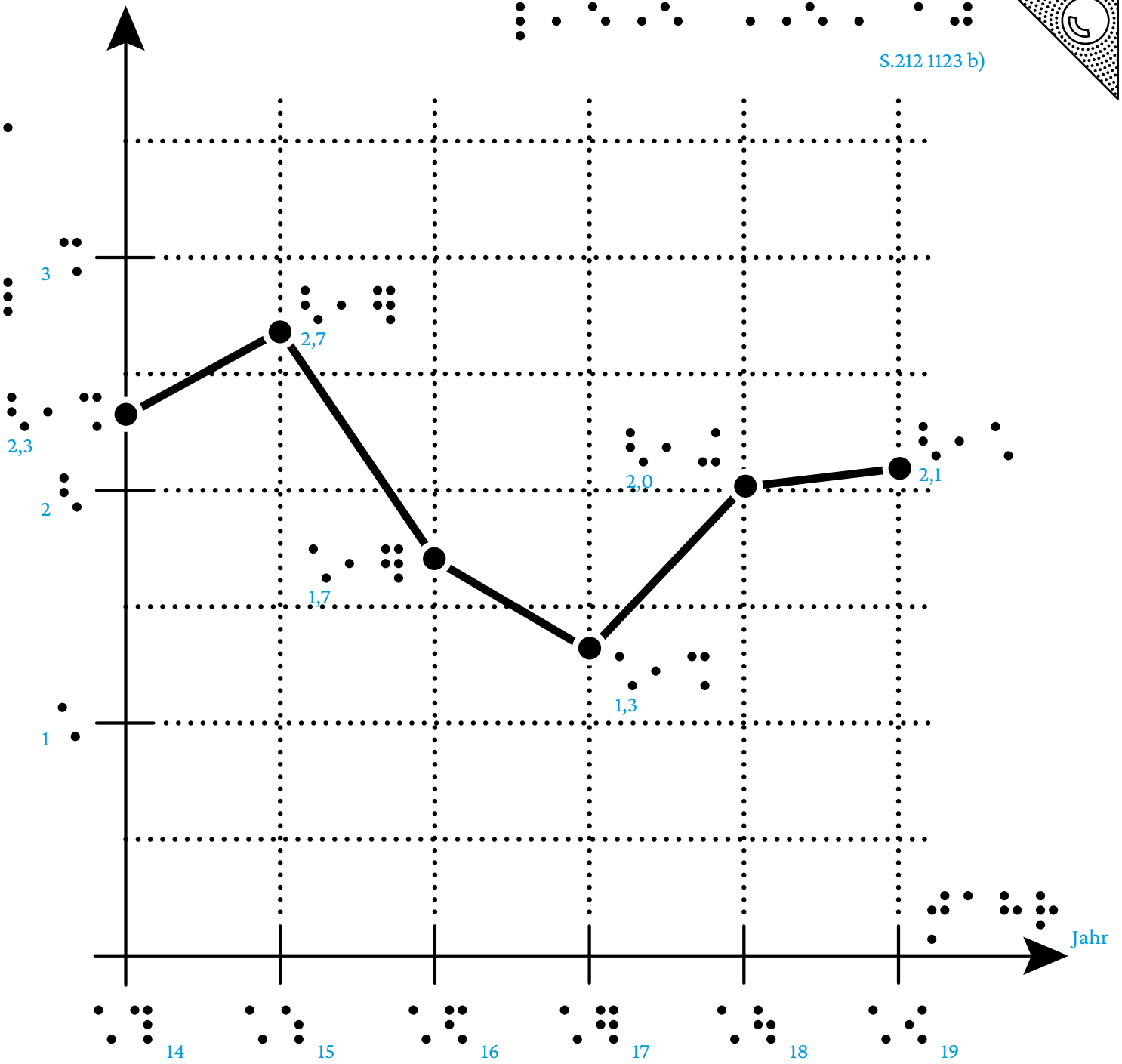
Wrtschaftswachstum zum Vorjahr in %



MVÜA3

S.212 1123 b)

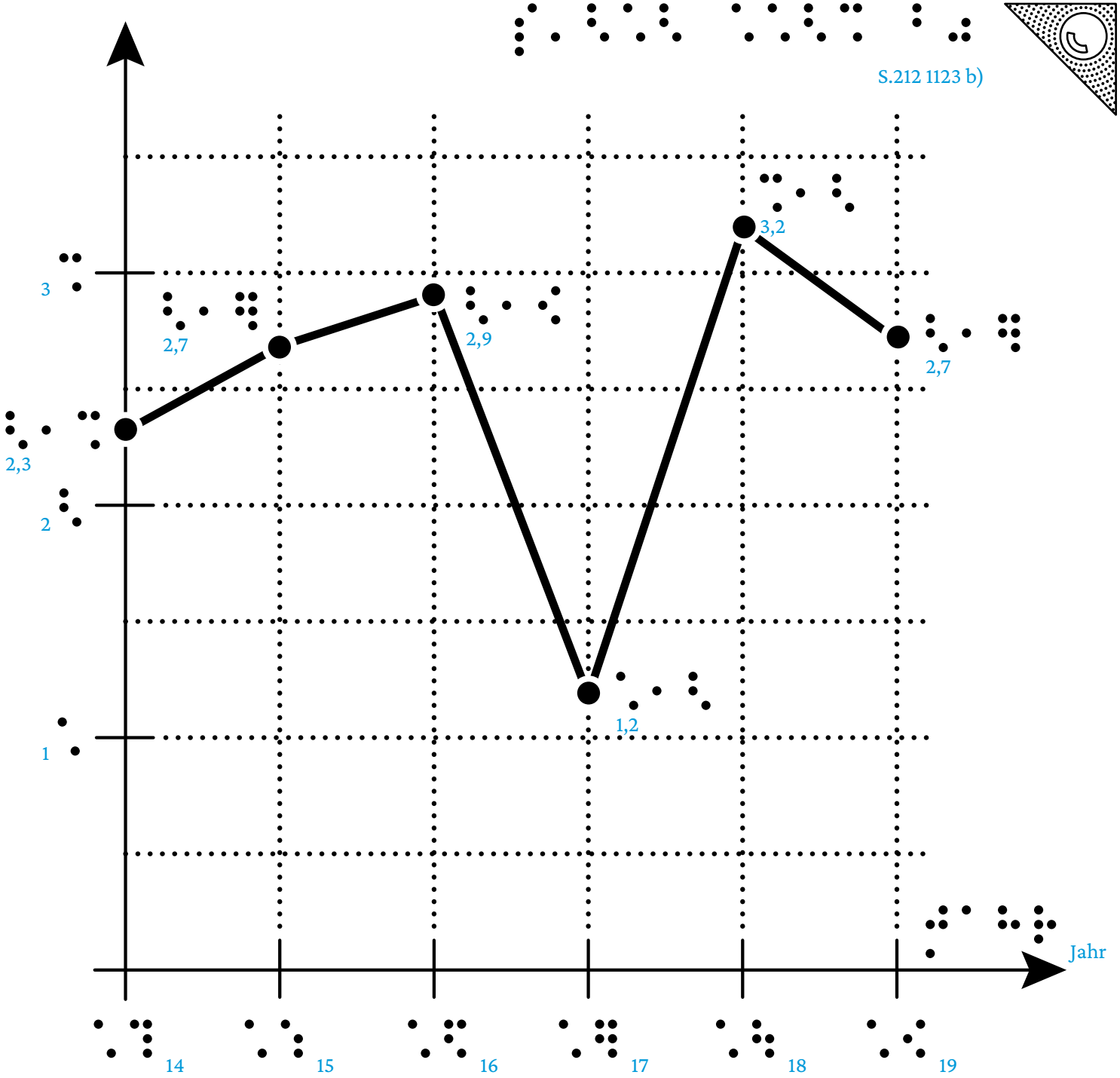
Verbraucherpreise zum Vorjahr in %

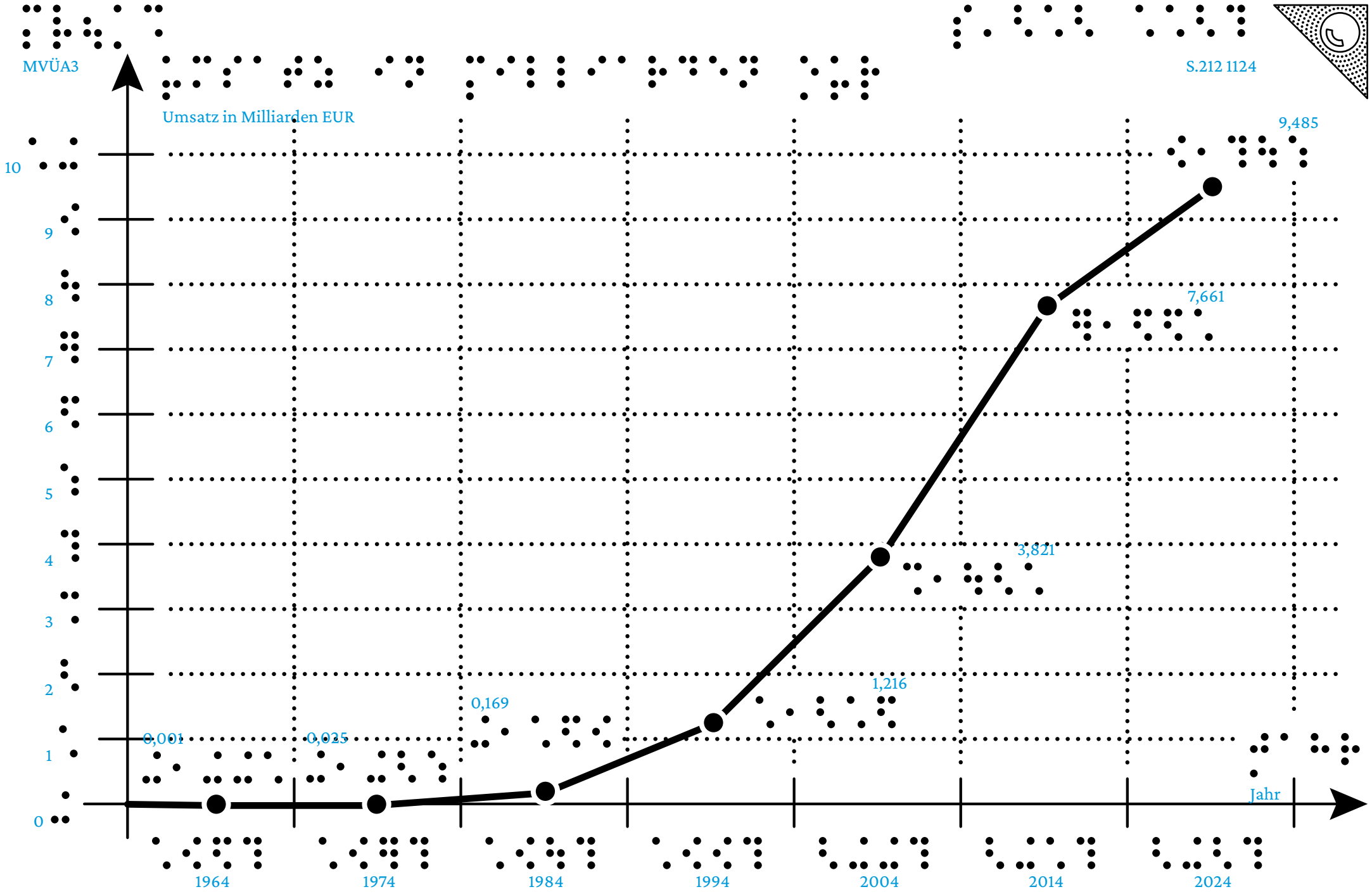


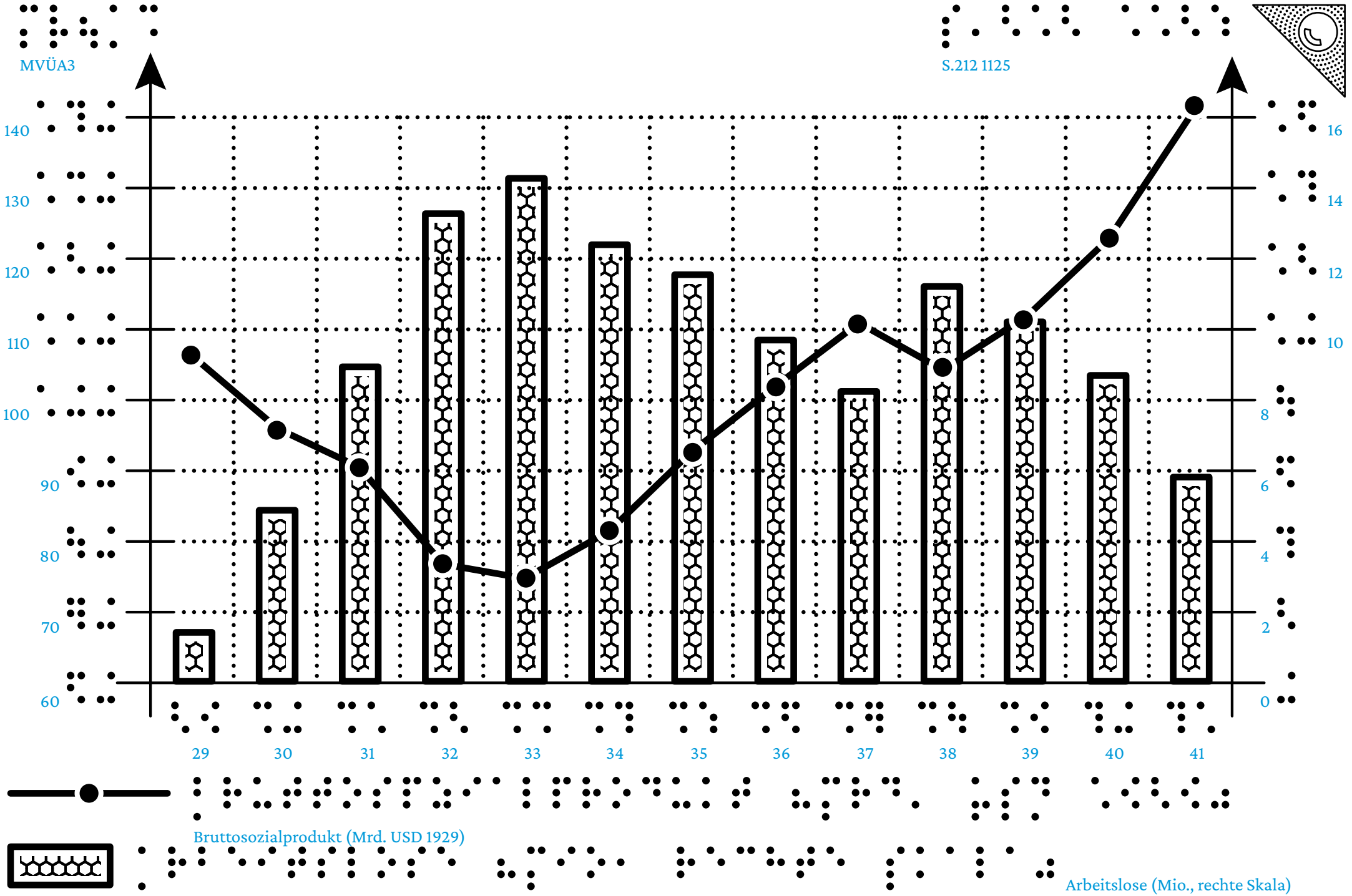
MVÜA3

S.212 1123 b)

Privater Konsum zum Vorjahr in %

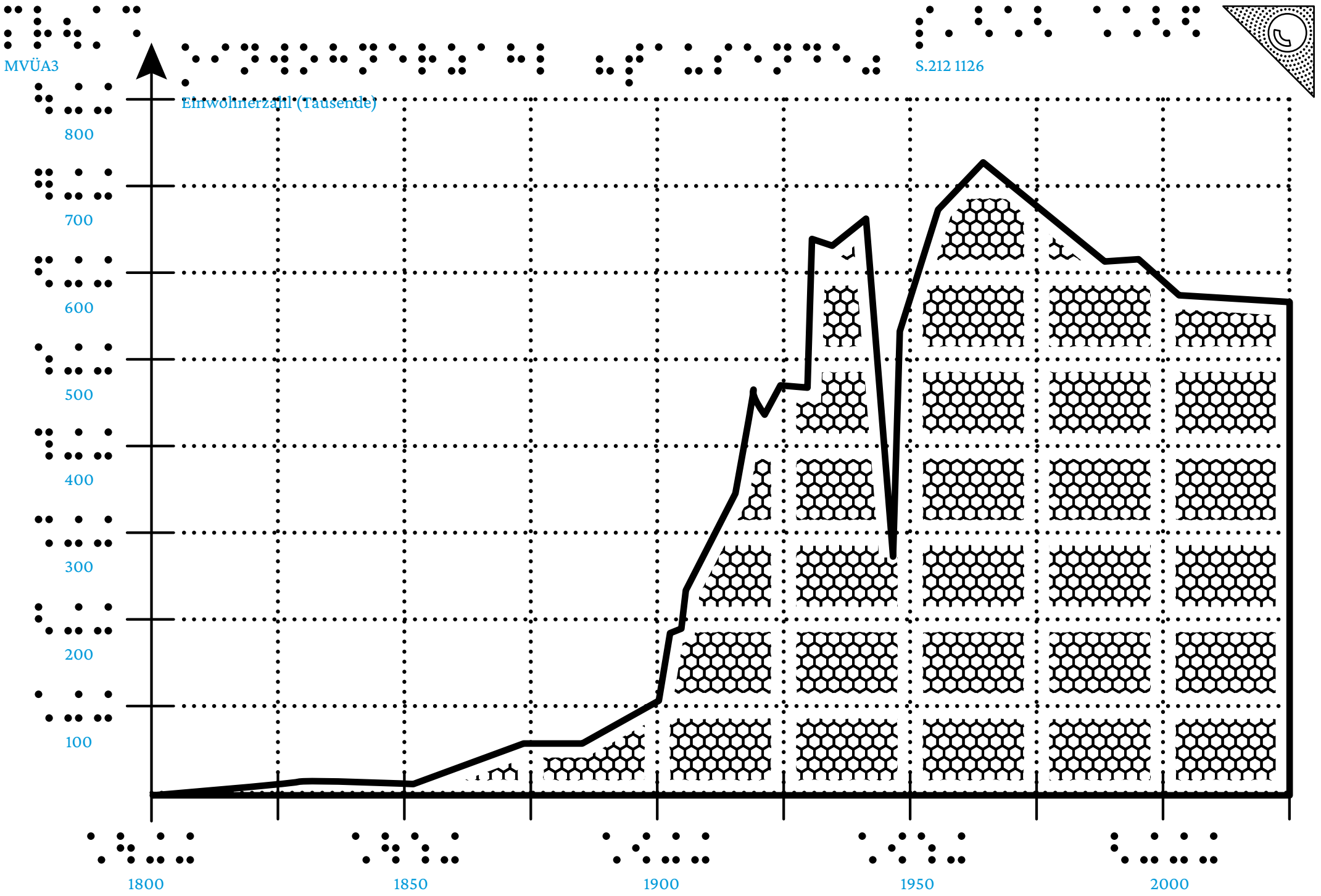



Umsatz in Milliarden EUR
10
9
8
7
6
5
4
3
2
1
0
0,001
0,025
0,169
1,216
3,821
7,661
9,485
Jahr
1964
1974
1984
1994
2004
2014
2024


MVÜA3
S.212 1125
140
130
120
110
100
90
80
70
60
16
14
12
10
8
6
4
2
0
29
30
31
32
33
34
35
36
37
38
39
40
41
Bruttosozialprodukt (Mrd. USD 1929)
Arbeitslose (Mio., rechte Skala)

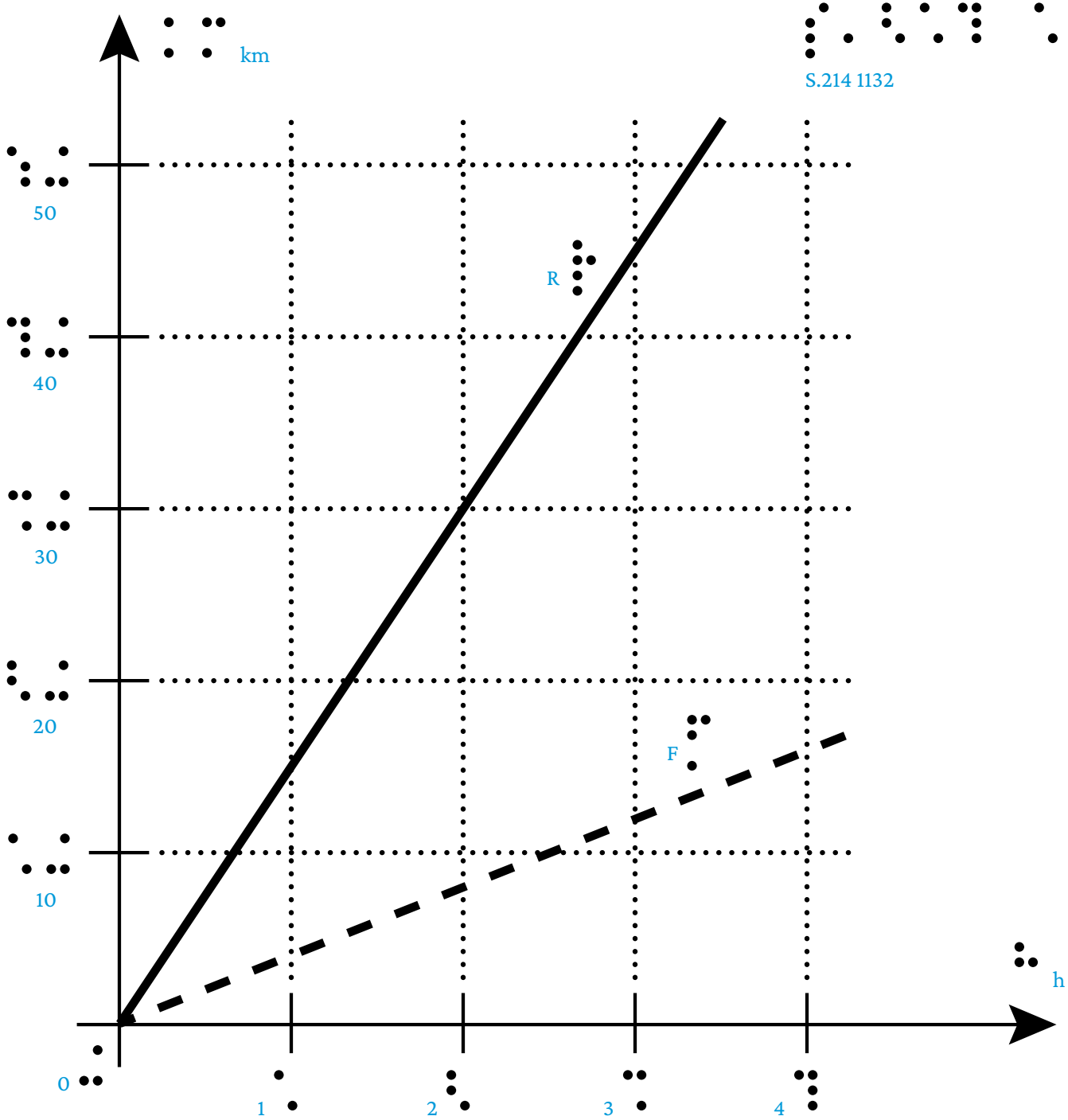
MVÜA3

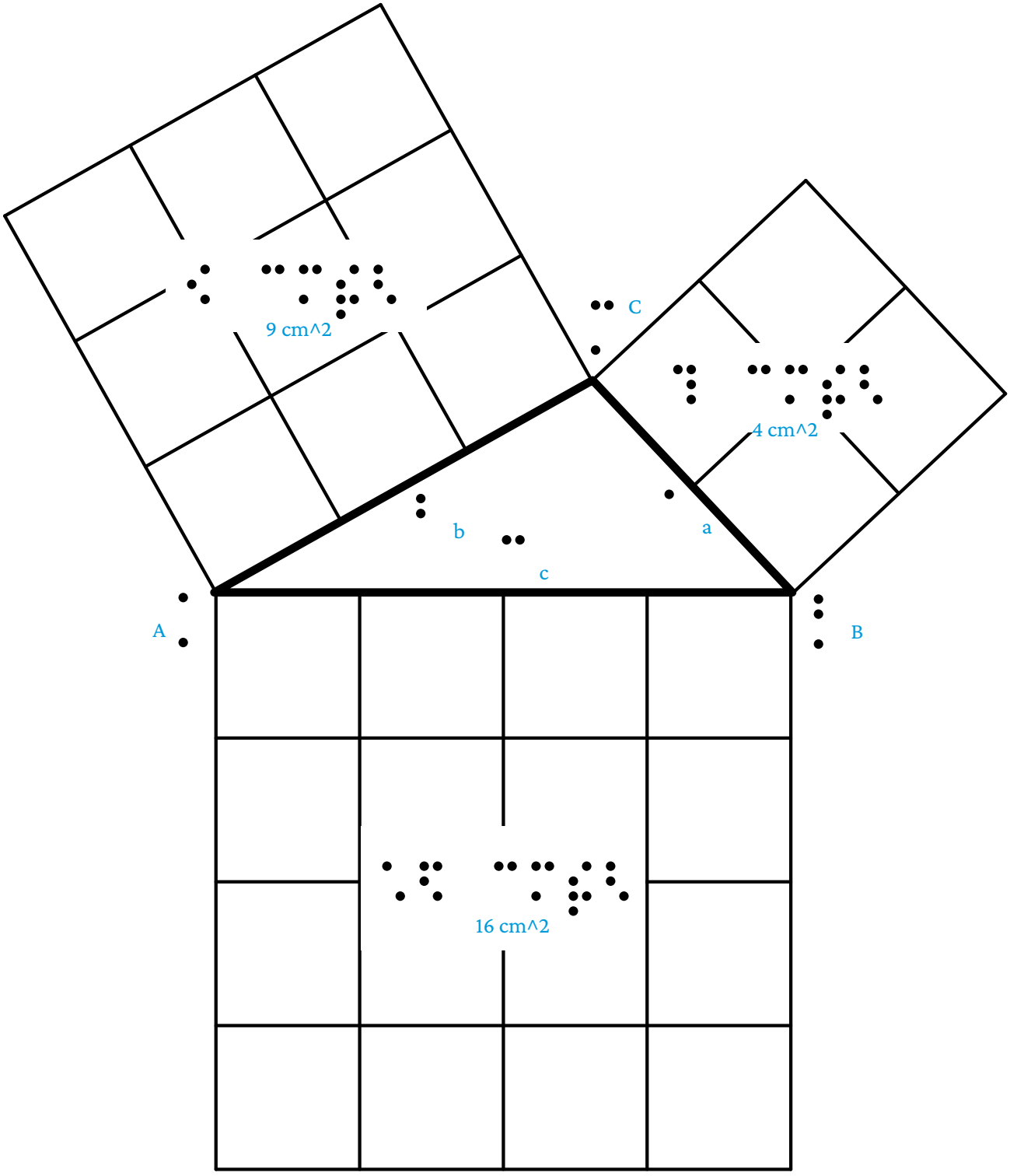
S.212 1126

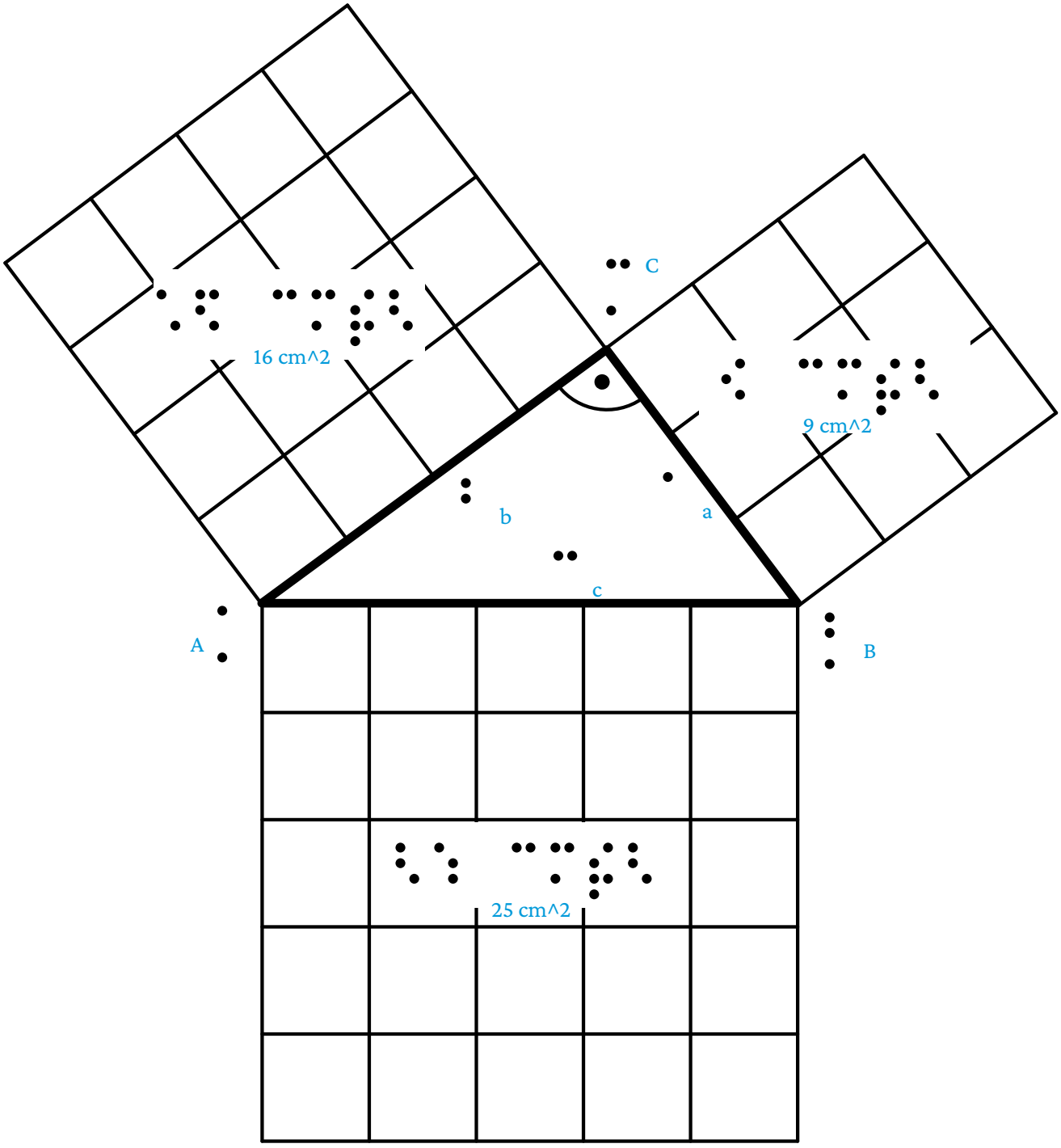


MVÜA3

S.214 1132



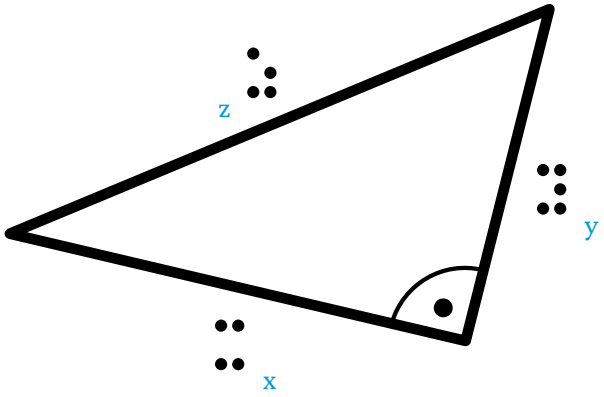

9 cm^2
C
4 cm^2
b
a
c
A
B
16 cm^2


C
16 cm^2
9 cm^2
b
a
c
A
B
25 cm^2

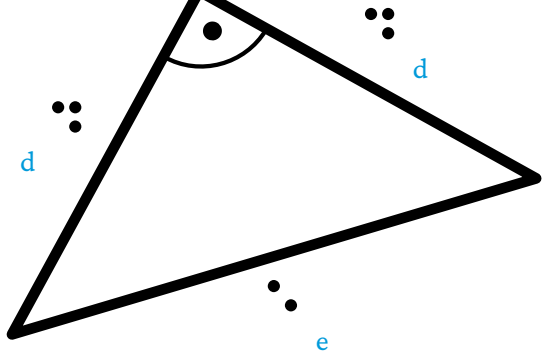
MVÜA3

S.226 1159

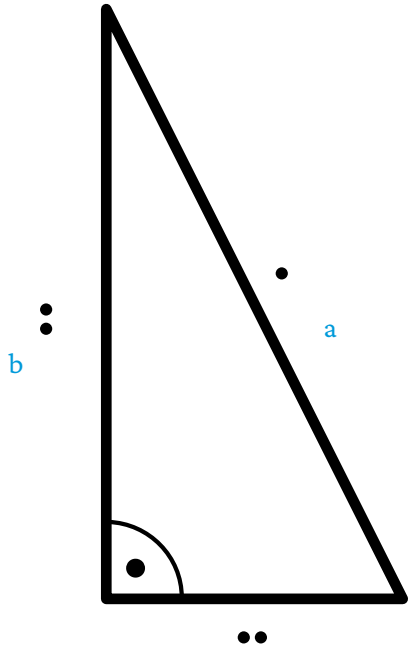
a)



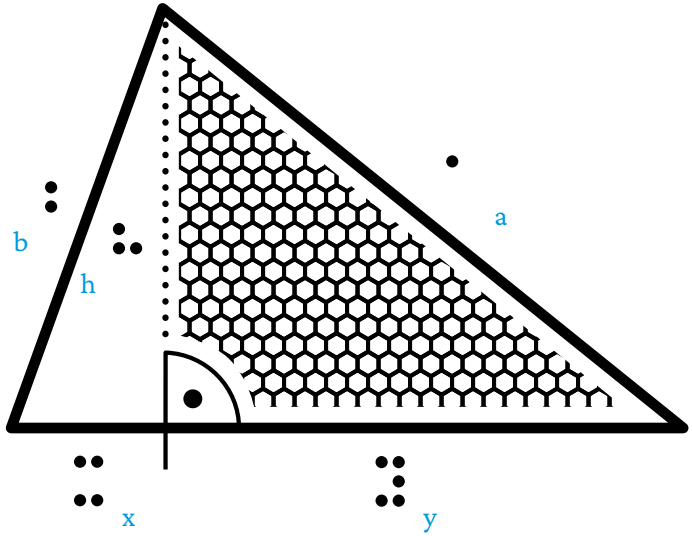
b)



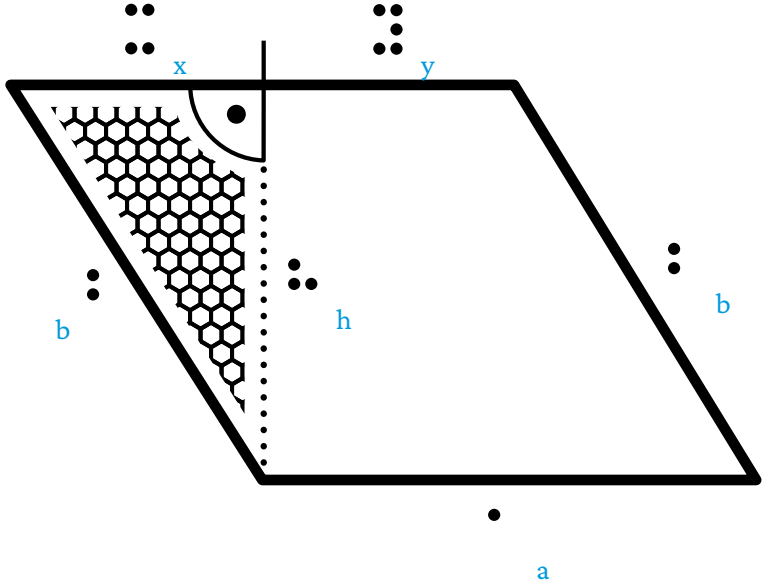
c)



d)

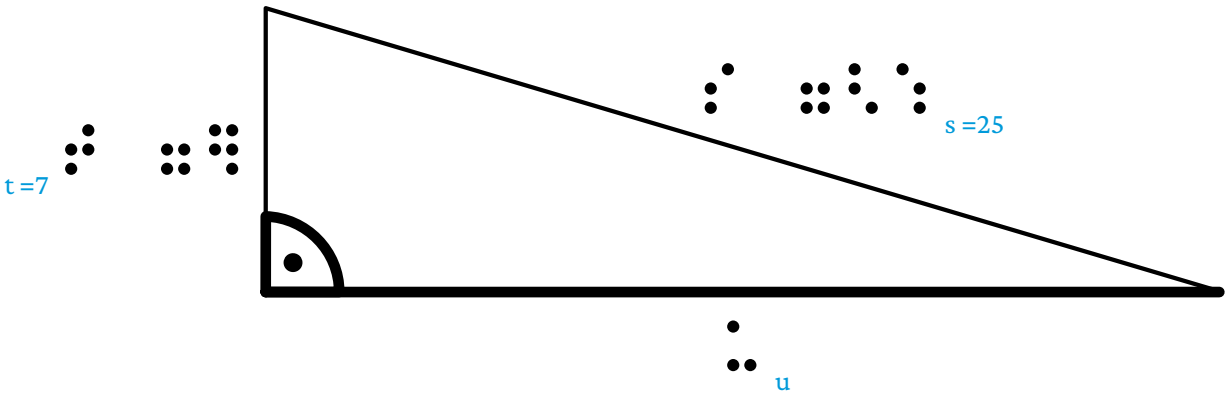


e)

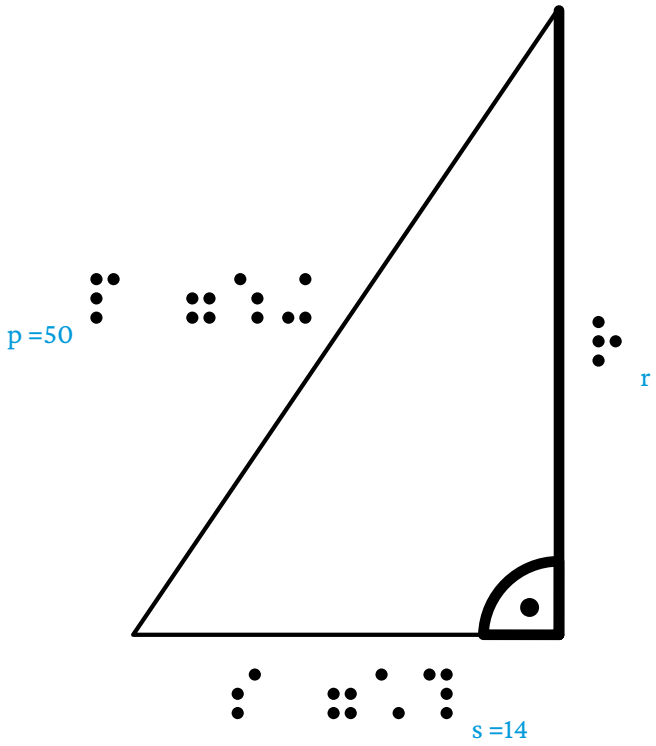


MVÜA3 S.226 1160 a), b), c)

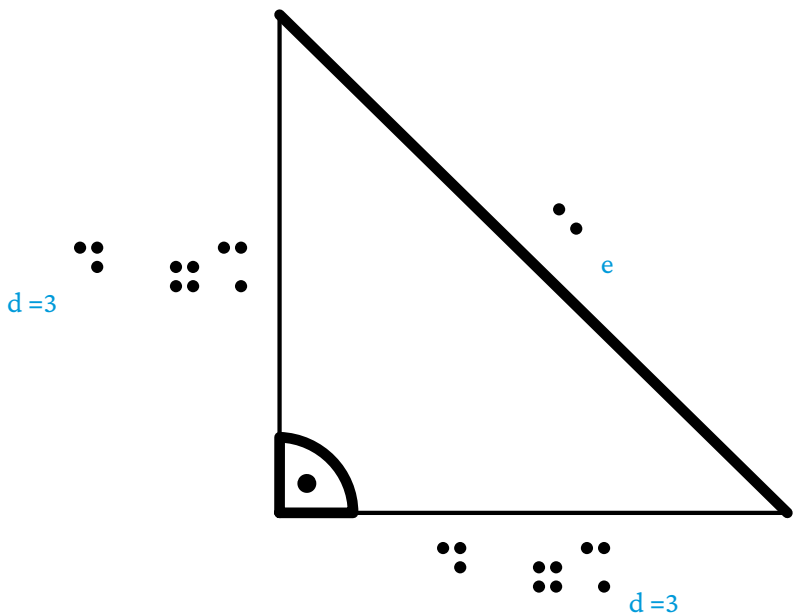
a)



b)

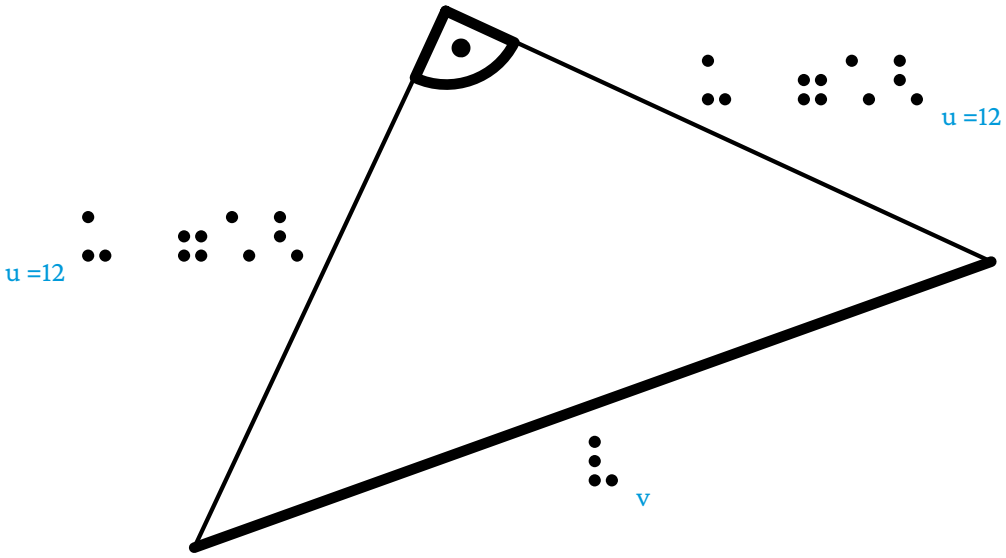


c)

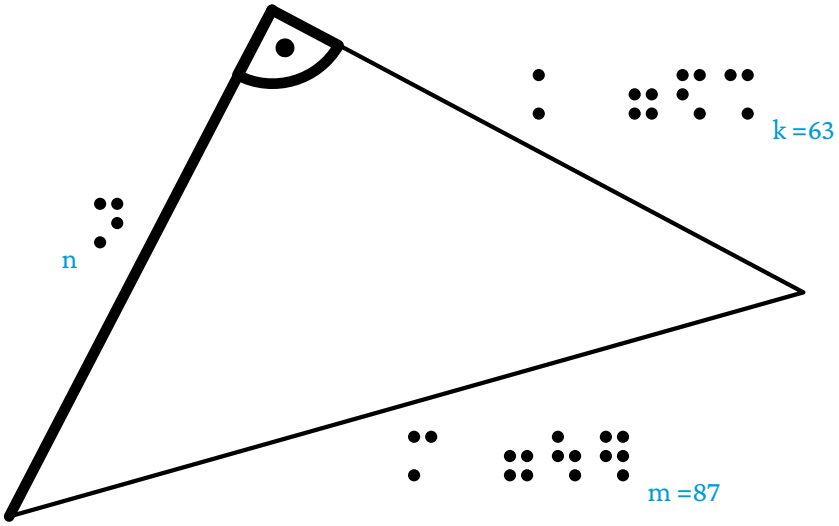


MVÜA3 S.226 1160 d), e), Bs.

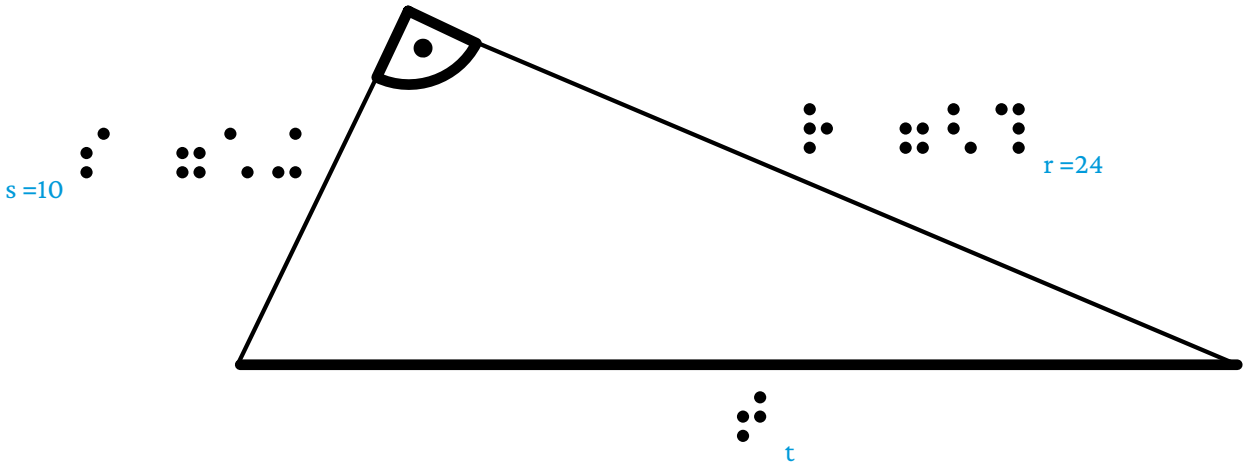
d)



e)



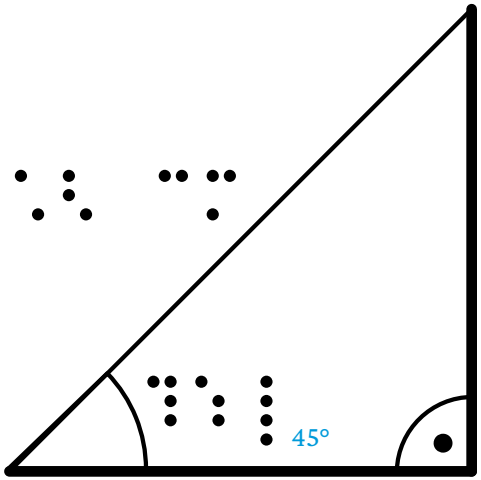
Beispiel:



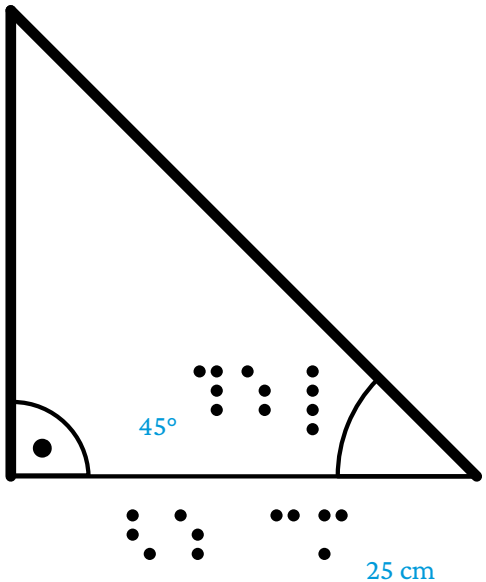
MVÜA3

S.231 1186

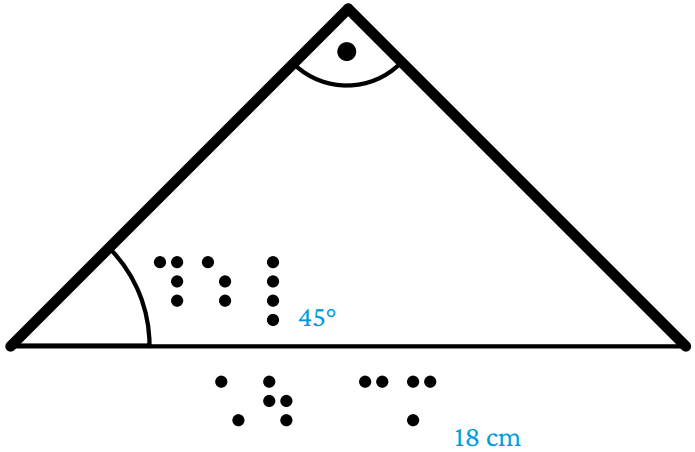
a)



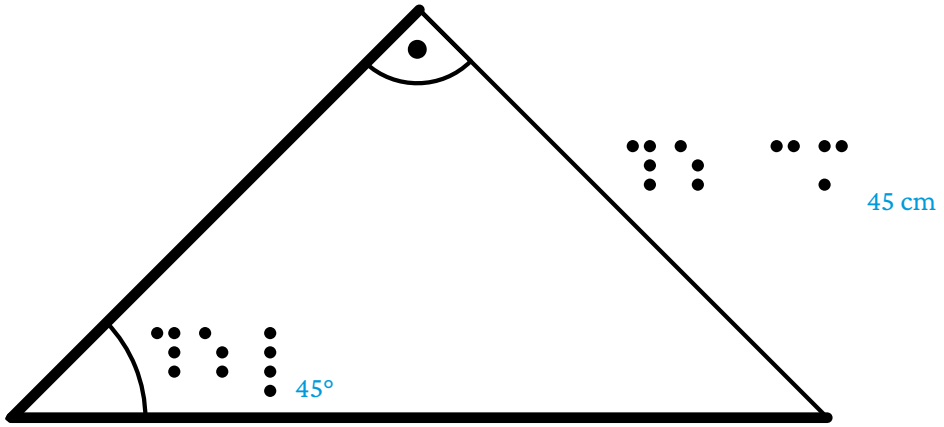
b)



c)



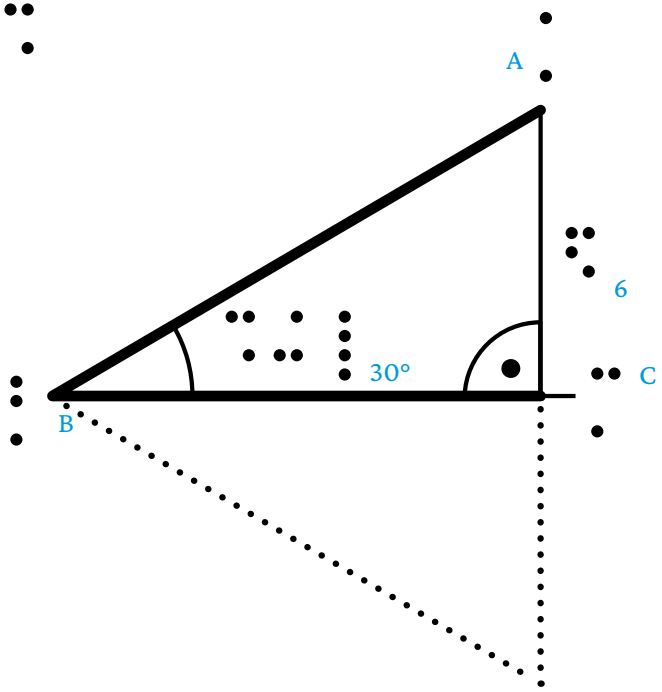
d)



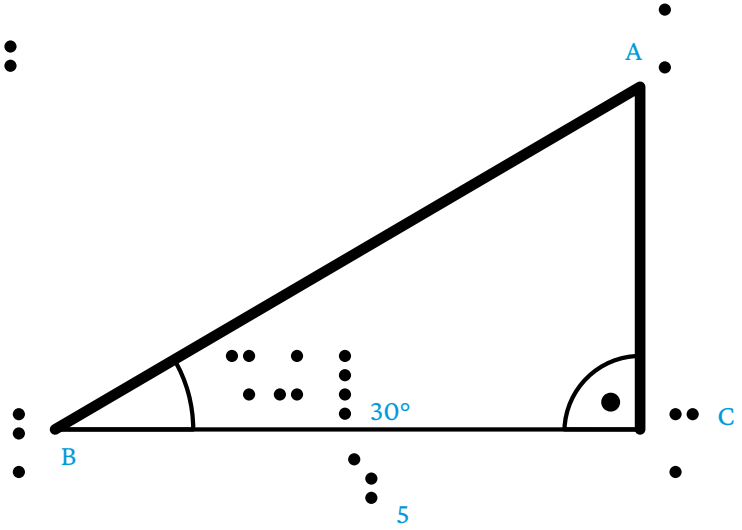
MVÜA3

S.234 1198

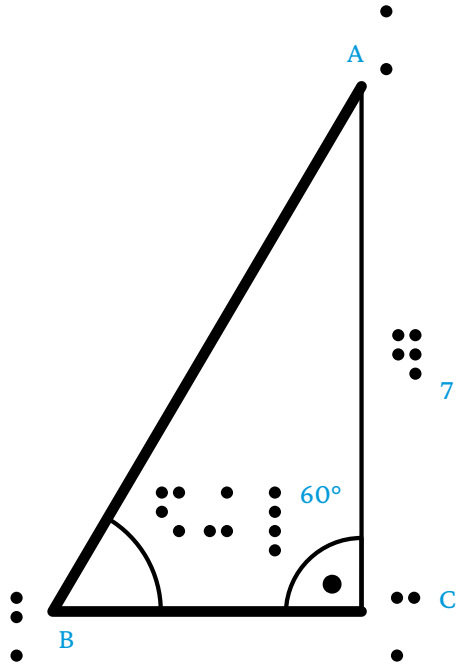
a)



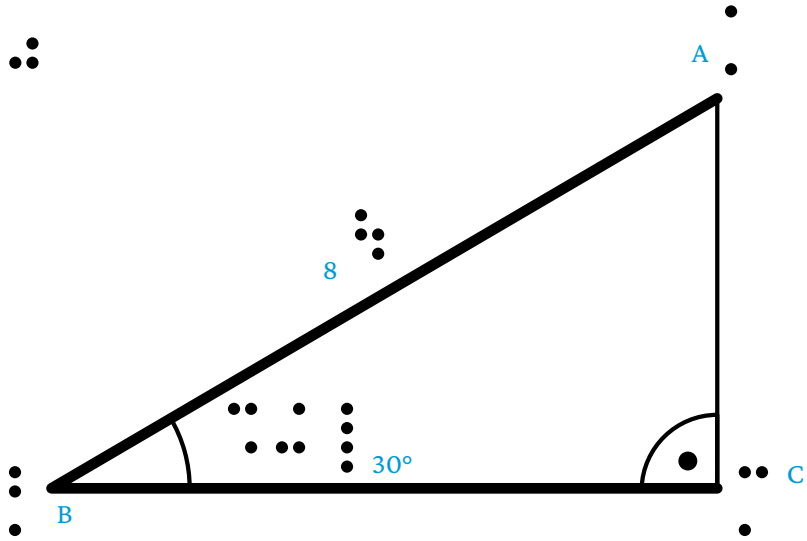
b)



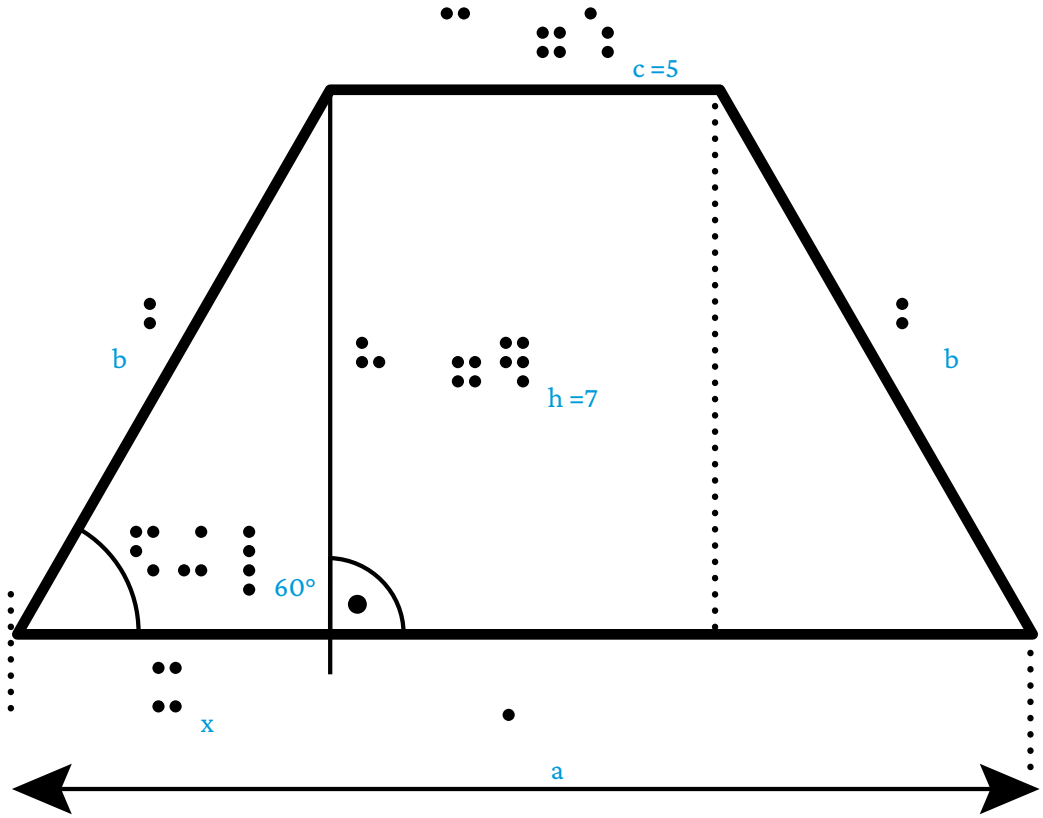
c)



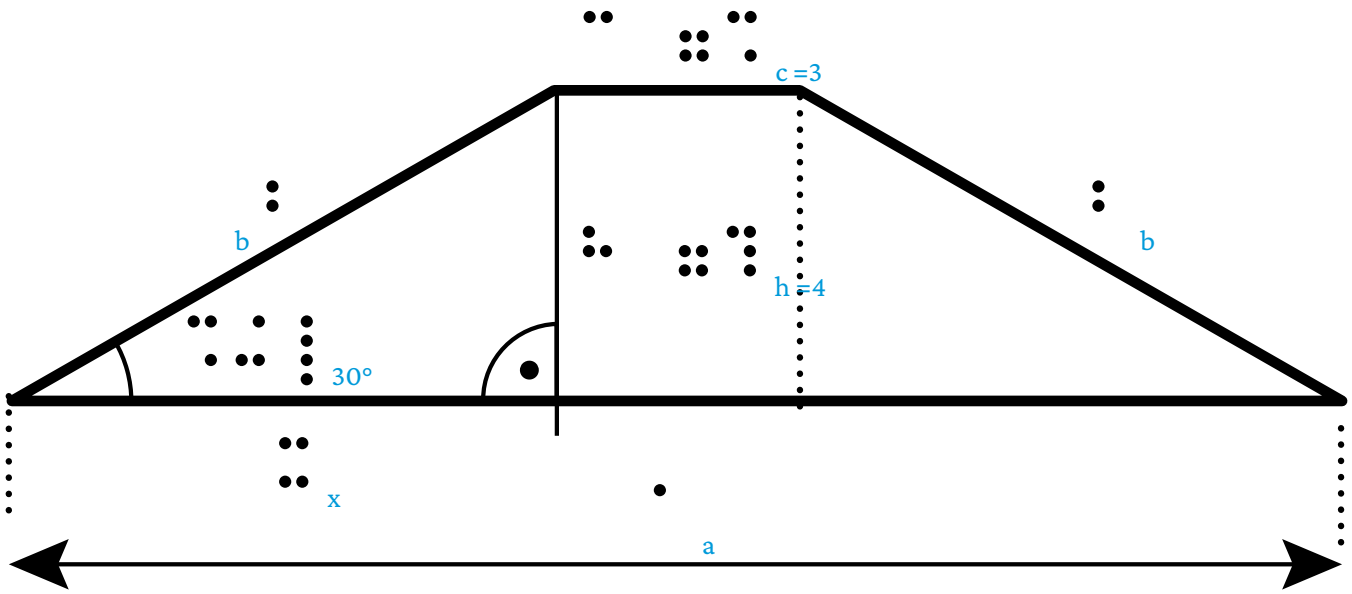
d)



a)

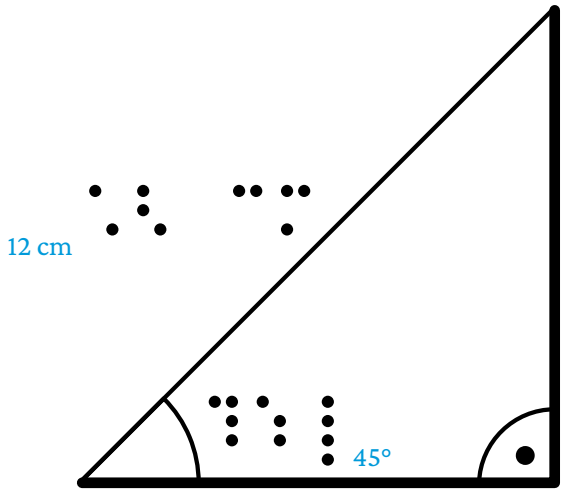


b)



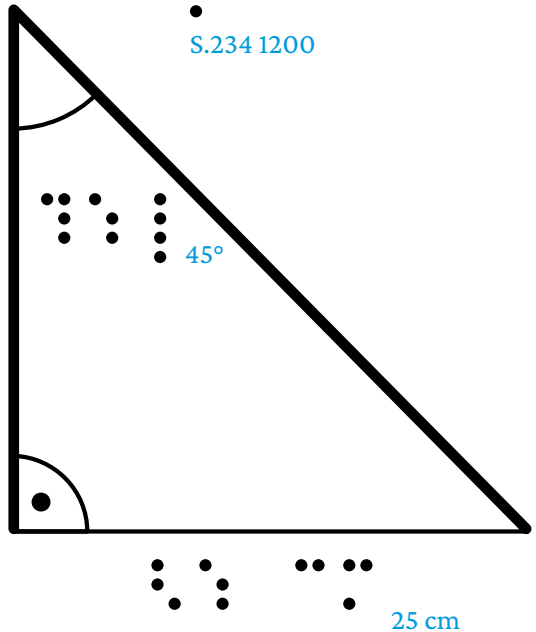
MVÜA3

a)

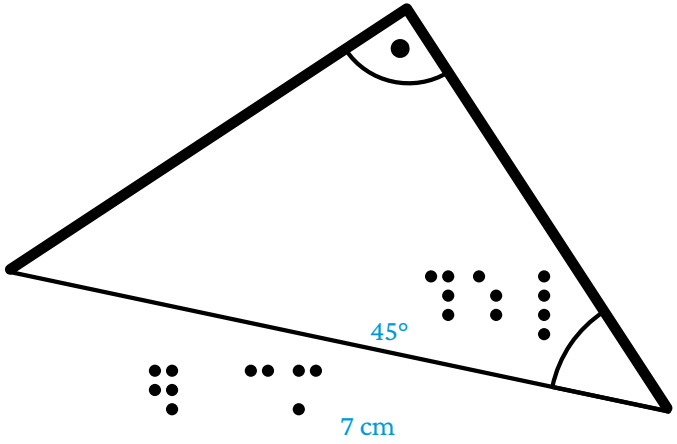


S.234 1200

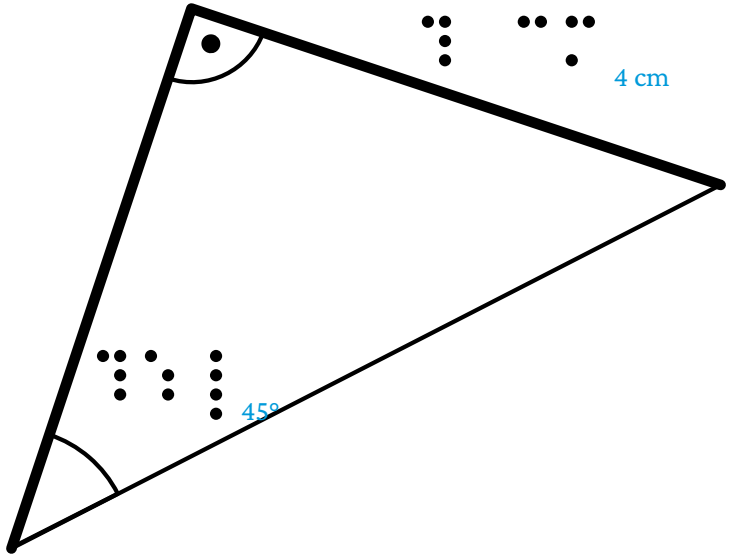
b)



c)

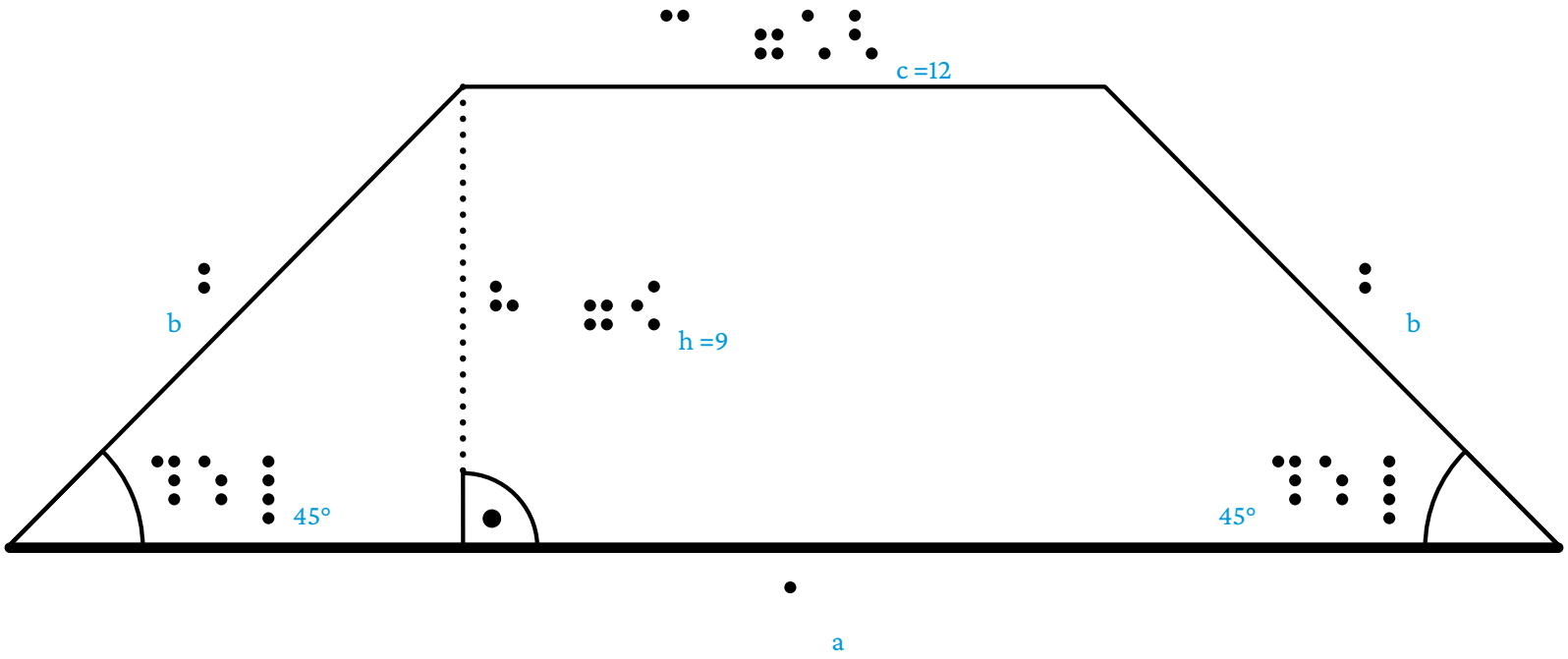


d)



MVÜA3

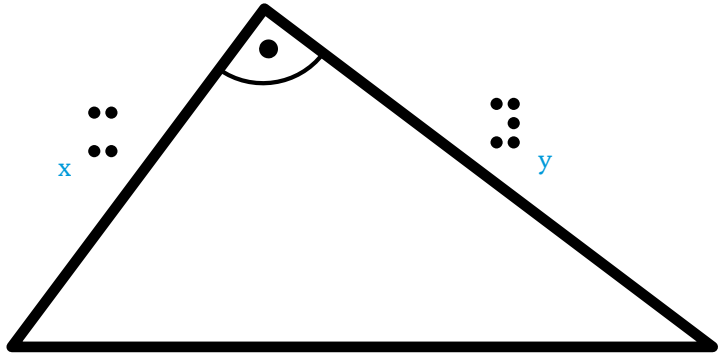
S.234 1201



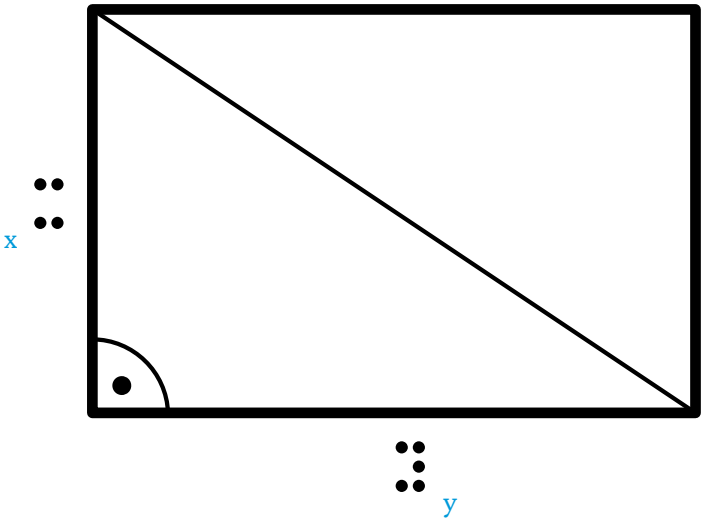
MVÜA3

S.236 1210

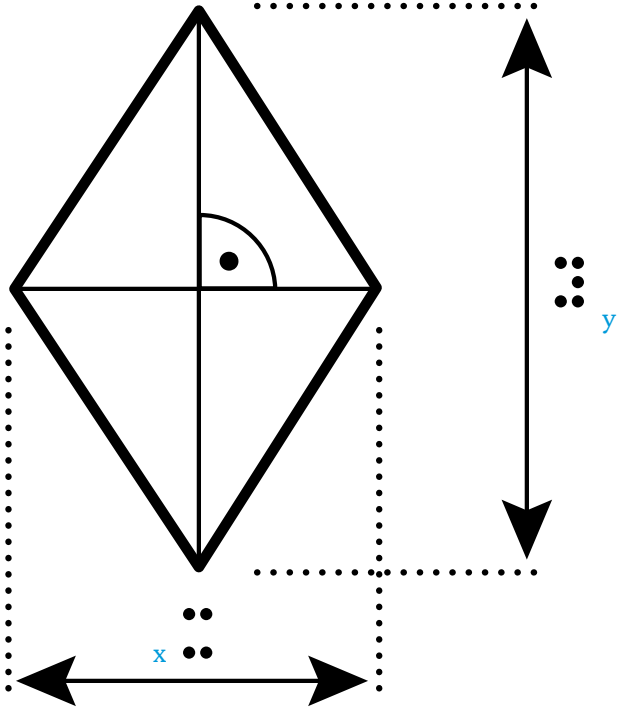
1)



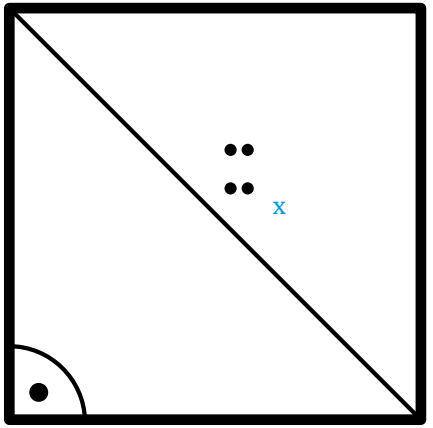
2)

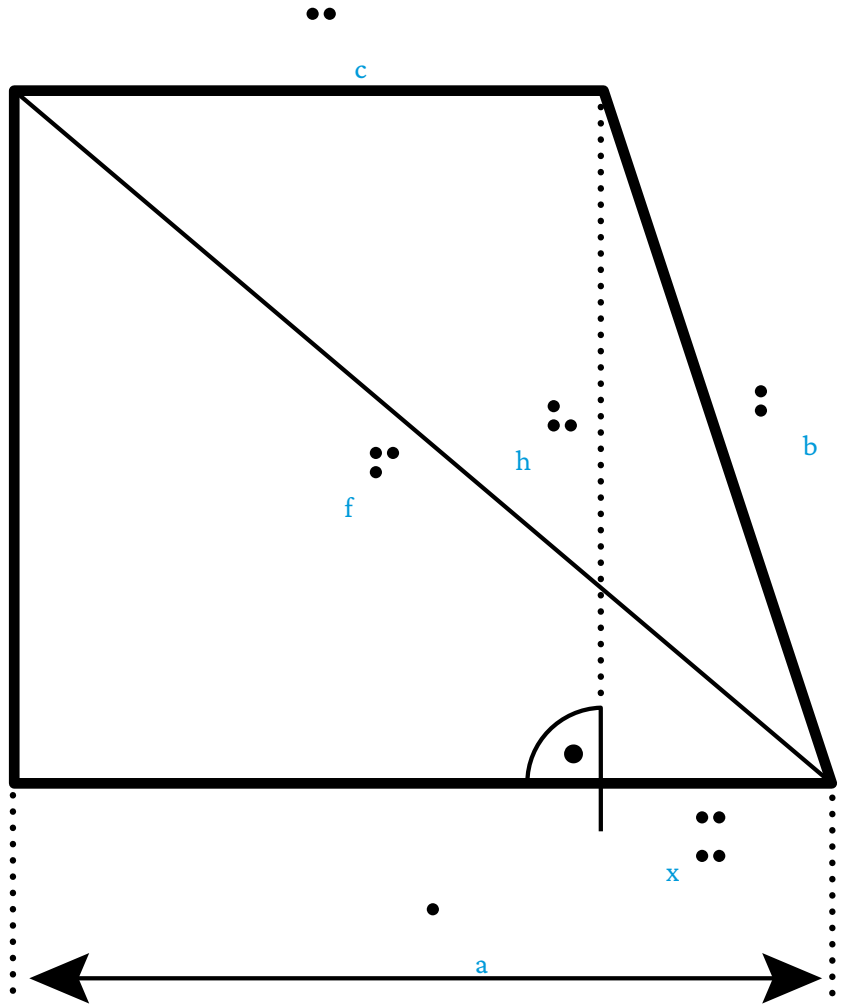


3)

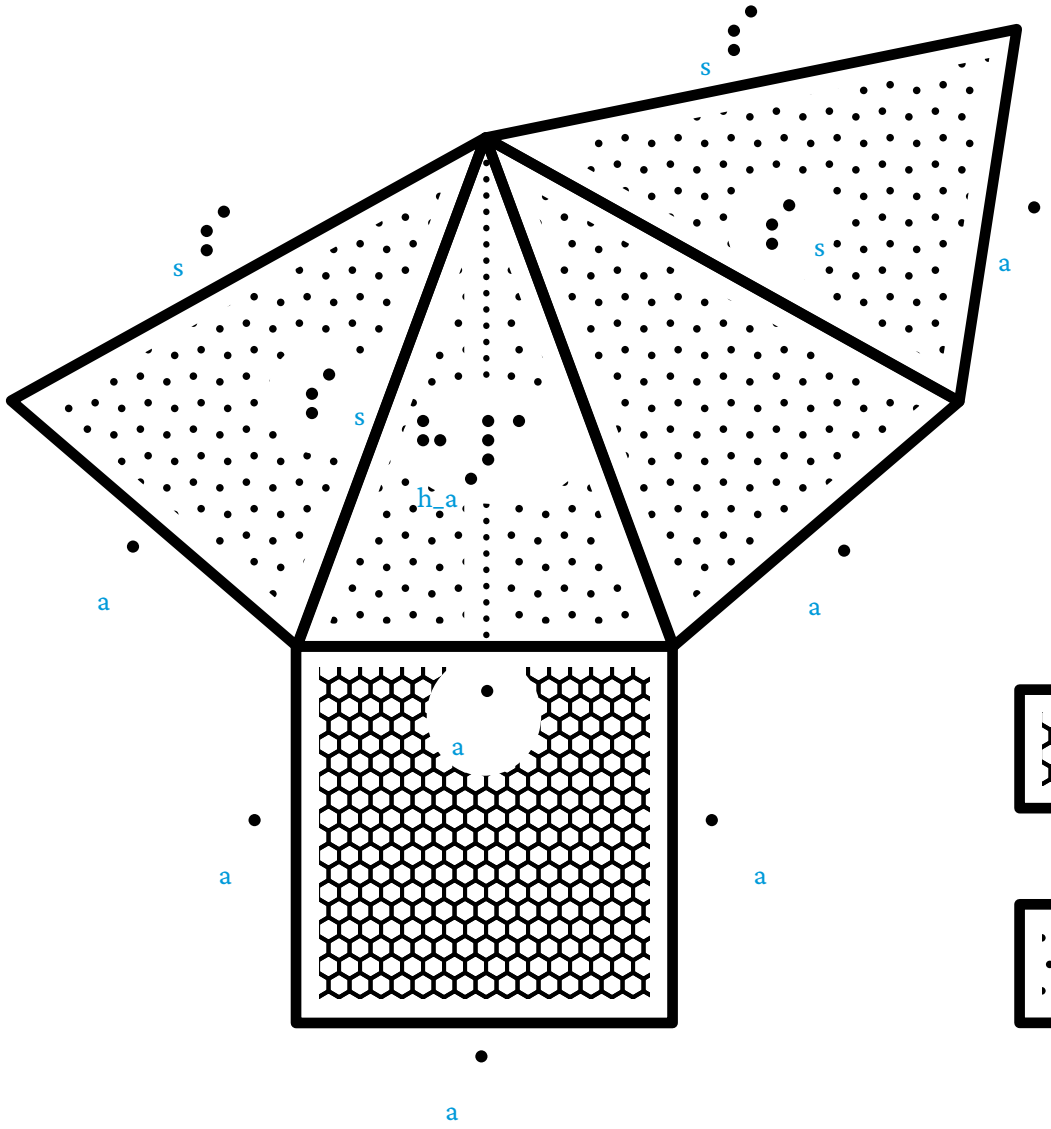


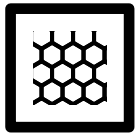
4)



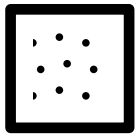

c
h
b
f
x
a

Regelmäßige vierseitige Pyramide





Grundfläche (G)

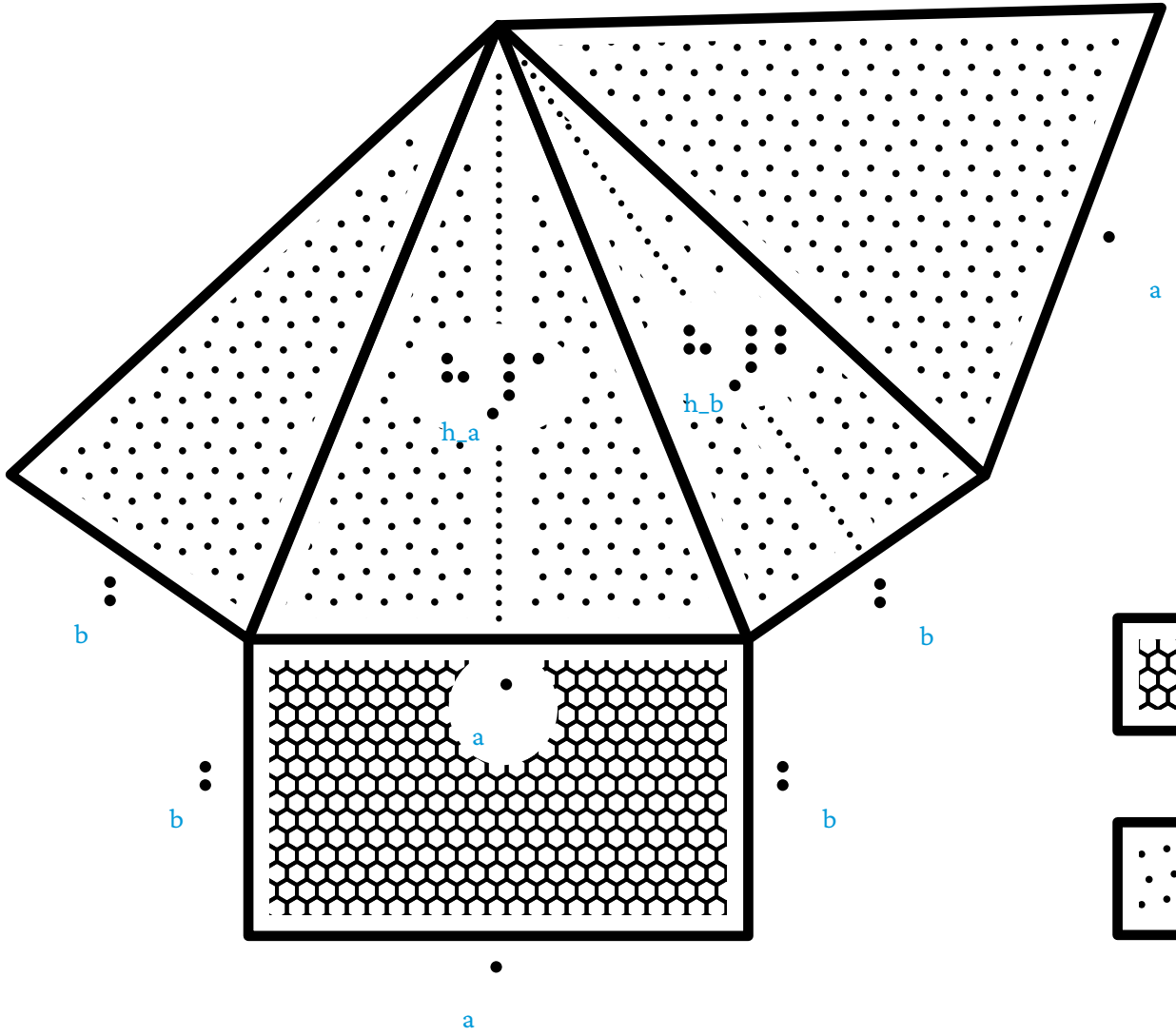


Mantel (M)

MVÜA3

S.265 Einführungsbeispiel b)

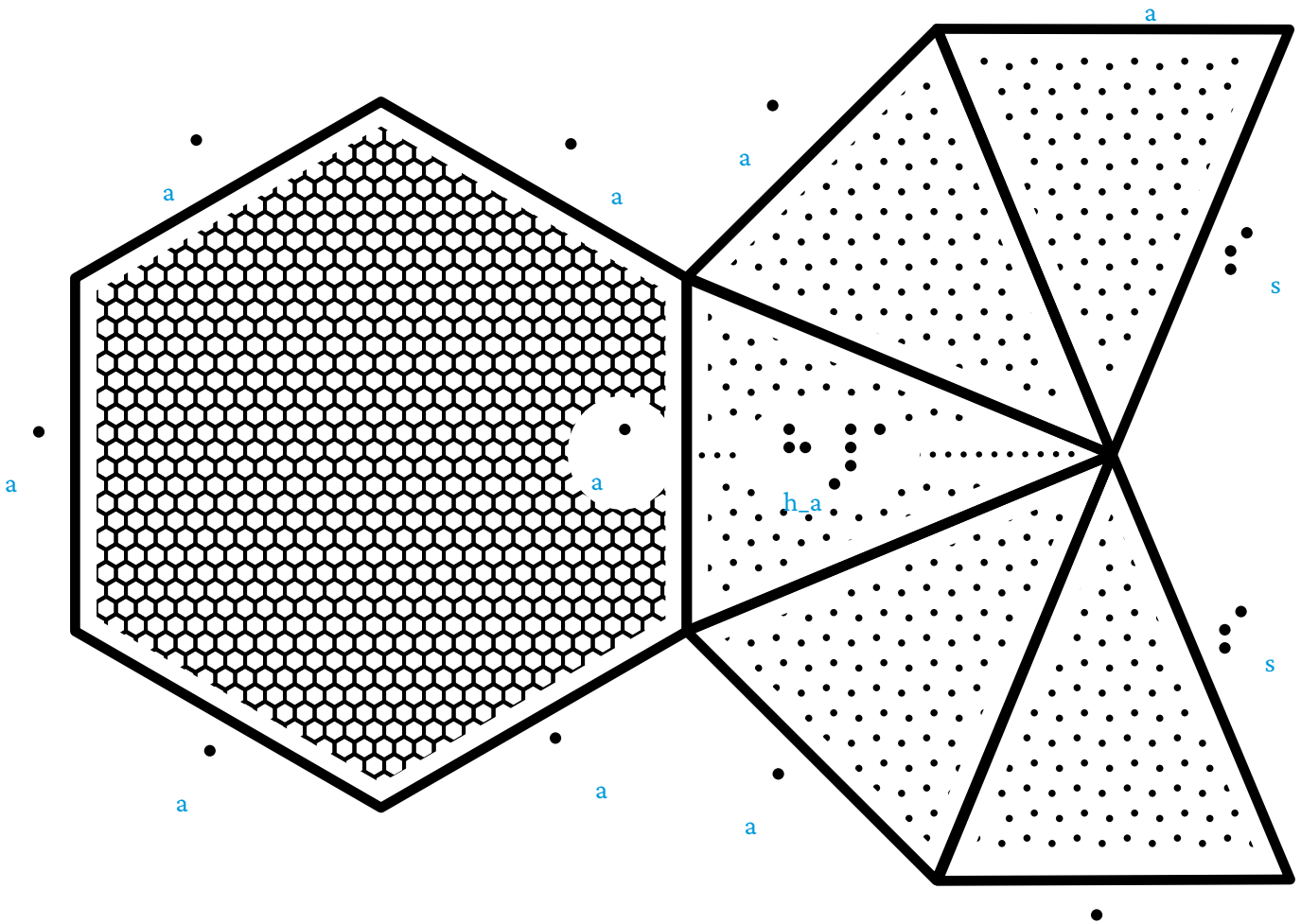
Gerade rechteckige Pyramide



Grundfläche (G)

Mantel (M)

Regelmäßige sechseckige Pyramide



Grundfläche (G)

a

Mantel (M)