



3a

Nemendabók

Lausnir

Efnisyfirlit

1	Tölur	2
2	Tölfræði og líkur	9
3	Margföldun og deiling	14
4	Rúmfræði	20



I Tölur

Bls. 5

I.1

a 57,9 milljónir km **b** 778,3 milljónir km

I.2

a 149 600 000 000 m **b** 108 200 000 000 m

I.3

a 2,87 milljarðar km **b** 0,2276 milljarðar km

I.4

a 41 400 000 km **b** 78 000 000 km

I.5

a 3 000 000 km
b 18 000 000 km
c 1 080 000 000 km

I.6

a 193 sek. = 3 mín. og 13 sek.
b 498,67 sek. ≈ 8 mín. og 19 sek.
c 14 990 sek. ≈ 249 mín. og 50 sek.
d 360,67 sek. ≈ 6 mín. og 1 sek.
e 4756,67 sek. ≈ 79 mín. og 17 sek.

I.7

a 1 000 **b** 1 000 **c** 1 000 000

I.8

a 2,87 billjón m **b** 0,2276 billjón mm

Bls. 6

I.9

a 7 **b** 0 **c** 2 **d** 9
(eða 20) (eða 42) (eða 79)

I.10

a 5 **b** 4 **c** 8 **d** 8

I.11

a 70 **d** 0 **g** 2
b 700 **e** 400 000 **h** 6 000 000
c 5000 **f** 80 000

I.12

a 23 498 **b** 864 375 **c** 3 532 747

I.13

a Fjögur þúsund sjötíu og tveir
b Tólf þúsund sjö hundruð og fimmtíu
c Sjötíu og fimm þúsund þrjátíu og fimm
d Áttatíu og sjö milljónir, þrjú hundruð þrjátíu og þrjú þúsund, sex hundruð og fimmtán.

I.14

a 59 827 **c** 999 987 **e** 7 500 000
b 1 037 235 **d** 17 850 000

Bls. 7

I.15

a $500 + 10 + 7$
b $900 + 2$
c $3000 + 400 + 70 + 2$
d $8000 + 40 + 5$
e $60\,000 + 5000 + 400 + 50 + 2$
f $20\,000 + 1000 + 100 + 50$
g $30\,000 + 50 + 8$
h $10\,000 + 2000 + 700$

I.16

a $100\,000 + 20\,000 + 7000 + 400 + 50 + 3$
b $300\,000 + 90\,000 + 5000 + 700 + 60 + 1$
c $500\,000 + 50\,000 + 5000 + 200 + 20 + 2$
d $700\,000 + 60\,000 + 90 + 9$
e $4\,000\,000 + 500\,000 + 20\,000 + 10 + 9$
f $7\,000\,000 + 500\,000 + 1000 + 100 + 20 + 4$
g $30\,000\,000 + 2\,000\,000 + 60\,000 + 3000 + 500 + 40 + 8$
h $600\,000\,000 + 90\,000\,000 + 5\,000\,000 + 800\,000 + 500 + 40 + 2$

I.17

a 3 875 185 **c** 9 054 506
b 7 822 394 **d** 1 700 590

I.18

a 9 593 959 **b** Margar lausnir; t.d. 57 493 608

I.19

a 5 **b** 43 **c** 15 **d** 32

I.20

a 435 **b** 142 **c** 25 **d** 40

Bls. 8

I.21

a 7749 **c** 28 147 **e** 362 585
b 10 880 **d** 68 381 **f** 419 834

I.22

a 12 686 **b** 120 279 **c** 879 885

I.23

a 8162 **c** 4170 **e** 102 950
b 17 421 **d** 3479 **f** 193 640

I.24

- a** 584 193 **d** 6 952 214
b 6 244 662 **e** 789 210
c 1 391 336 **f** 9 957 078

I.25

- a** 60 000 000 **c** 50 000 000
b 120 000 000 **d** 600 000 000

I.26

- a** 7,7 milljónir **c** 50 milljarðar
b 5,85 milljónir **d** 229 milljarðar

Bls. 9

I.27

- a** 64 **c** 10 160 **e** 62 107
b 1592 **d** 476 246 **f** 589 384

I.28

- a** 1793 **c** 840 **e** 4138
b 5024 **d** 1151 **f** 2762

I.29

- a** 27 326 **c** 25 978 **e** 412 660
b 48 060 **d** 46 480 **f** 247 111

I.30

- a** 896 281 **b** 4 428 114 **c** 10 940 000

I.31

- a** 500 000 **c** 130 000
b 130 000 **d** 65 000 000

I.32

- a** 3 milljónir **c** 44 milljarðar
b 43 milljónir **d** 360 milljarðar

I.33

- a** 400 000 **b** 850 000 **c** 950 000 **d** 340 000

Bls. 10

I.34

4 230 000 kr.

I.35

310 000 kr.

I.36

- a** 8 590 000 kr. **c** 180 000 kr.
b 520 000 kr. **d** 1 410 000 kr.

I.37

130 000 kr.

I.38

720 000 kr.

I.39

- a** 797 890 kr. **b** 26 430 kr.

I.40

Pétur á 430 kr. Maja á 850 kr.

I.41

Nína á 7400 kr. Hanna á 14 800 kr.

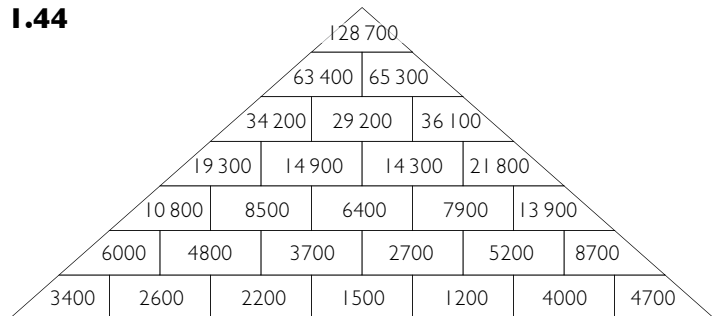
Bls. 11

I.42

+	23 789	15 890	120 320	275 210	4 451 512
20 000	43 789	35 890	140 320	295 210	4 471 512
17 600	41 389	33 490	137 920	292 810	4 469 112
453 560	477 349	469 450	573 880	728 770	4 905 072
33 000	56 789	48 890	153 320	308 210	4 484 512

I.43

-	263 875	352 986	505 805	1 646 000	2 141 515
40 000	223 875	312 986	465 805	1 606 000	2 101 515
222 000	41 875	130 986	283 805	1 424 000	1 919 515
200 000	63 875	152 986	305 805	1 446 000	1 941 515
76 549	187 326	276 437	429 256	1 569 451	2 064 966

I.44**I.45**

- a** **b**
67 852 250 653
+ 64 592 + 391 862
132 444 642 515

I.46

- a** **b**
47 347 624 602
- 20 527 - 380 982
26 820 243 620

Bls. 12

I.47

- a** Winnipeg **b** 24° **c** 60° **d** 33°

I.48

- a** 13° **c** 22° **e** 13° **g** 23°
b 14° **d** 25° **f** 63° **h** 62°

1.49**a** -2° **b** -12° **c** -8° **1.50****a** -3° **b** 0° **c** 3° **1.51****a** 24 **c** 15 **e** -38 **g** 29
b -5 **d** -27 **f** -8 **h** 20**1.52**

a			b		
A	B	Það munar	A	B	Það munar
34	21	13	215	-85	300
78	-12	90	250	-150	400
-45	-15	30	-750	-650	100
-71	71	142	-235	-436	201
94	-26	120	485	-515	1000

Bls. 13

1.53**a** $-23, -21, -11, -6, -3, 0, 6, 7, 14$
b $-503, -395, -394, -372, -165, 136, 141, 219, 416$ **1.54**

440 kr.

1.55

325 kr.

1.56**a** Mismunandi svör. **b** 400**1.57**

Dagur	Tekjur	Gjöld	Hagnaður
mánud.	15	12	3
þriðjud.	8	12	-3
miðvikud.	7	12	-5
fimmtud.	11	12	-1
föstud.	5	12	-7
laugard.	18	12	6
sunnud.	21	12	9

b 1000 kr.**1.58**

Vika	Tekjur	Gjöld	Hagnaður
1	24000	15000	9000
2	21500	16000	5500
3	12800	15500	-2700
4	13700	15200	-1500
5	27400	16700	10700
6	19800	14200	5600

b 26 600

Bls. 14

1.59

130 kr.

1.60

1900 kr.

1.61

590 km

1.62

3,8 lítra

1.63

1400 kr.

1.64**a** 7 **c** 5 **e** 5 **g** 15 **i** 5
b 3 **d** 5 **f** 20 **h** 25**1.65****a** Mismunandi svör. **b** 90

Bls. 15

1.66

460 kr.

1.67

940 kr.

1.68

3000 kr.

1.69

3800 kr.

1.70**a** Mismunandi svör. **b** 320**1.71**

	Dæmi	Afgangs
a	$1450 - (1420 - 190)$	$1450 - 1230 = 220$
b	$2160 - (1980 - 270)$	$2160 - 1710 = 450$
c	$3820 - (1290 - 310)$	$3820 - 980 = 2840$
d	$1230 - (1500 - 370)$	$1230 - 1130 = 100$
e	$470 - (1290 - 860)$	$470 - 430 = 40$

Bls. 16

1.72**a** 23 **c** 27 **e** 57 **g** 66 **i** 59
b 40 **d** 38 **f** 49 **h** 45**1.73****a** 73 **c** 59 **e** 56 **g** 68 **i** 81
b 40 **d** 52 **f** 89 **h** 69

I.74

300 kr.

I.75

a 55 **c** 360 **e** 75
b 115 **d** 170 **f** 100

I.76

a 30 **c** 90 **e** 45
b 20 **d** 14 **f** 115

Bls. 17

I.77

a 1270 **b** 800 **c** 900 **d** 400

I.78

a 110 **c** 780 **e** 1350
b 210 **d** 385 **f** 32 000

I.79

a 27 **c** 56 **e** 0
b -10 **d** 260 **f** 110

I.80

Mismunandi svör:

I.81

a $60 - (30 + 10) + 5 = 25$
b $(60 - 30) - (10 + 5) = 15$
c $60 - (30 + 10) - 5 = 15$
d $60 - (30 - 10) - 5 = 35$

I.82

87 kr.

I.83

198 kr.

I.84

85 kúlur.

I.85

340 kr.

Bls. 18

I.86**a**

A = 2,9 cm

B = 4,0 cm

C = 2,2 cm

D = 3,3 cm

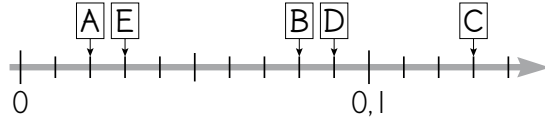
E = 2,8 cm

b C - E - A - D - B**I.87**

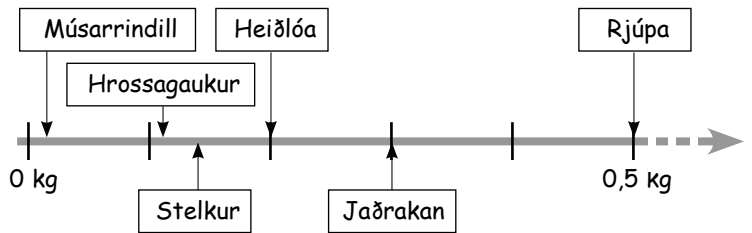
A = 1,9 B = 5,1 C = 7,2 D = 10,8

I.88

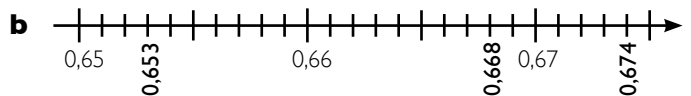
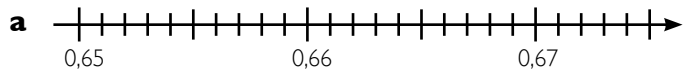
a A = 0,09 B = 0,36 C = 0,67 D = 0,83
b A = 0,324 B = 0,327 C = 0,333 D = 0,339
c A = 0,12 B = 0,18 C = 0,26 D = 0,46

I.89

Bls. 19

I.90

Bls. 19

I.91

c 0,665 **d** 0,656 **e** 0,659 **f** 0,6625

I.92

a $0,20 > 0,18$ **f** $0,330 = 0,33$
b $0,04 < 0,041$ **g** $0,321 > 0,1234$
c $0,076 > 0,067$ **h** $0,563 > 0,56$
d $0,050 = 0,05$ **i** $0,004 < 0,01$
e $0,0072 < 0,13$ **j** $0,260 = 0,26$

I.93

$0,135 + 0,865 = 1$
 $0,462 + 0,538 = 1$
 $0,333 + 0,667 = 1$
 $0,812 + 0,188 = 1$
 $0,298 + 0,702 = 1$
 $0,119 + 0,881 = 1$

I.94

C - A - F - B - E - D

Bls. 20

I.95

- a** 0,013 – 0,016 – 0,019 **d** 0,840 – 0,815 – 0,785
- b** 0,036 – 0,027 – 0,018 **e** 0,250 – 0,160 – 0,09
- c** 0,022 – 0,032 – 0,044 **f** 0,047 – 0,095 – 0,191

I.96

- a** 0,006 – 0,013 – 0,020 – 0,027 – 0,034 – 0,041
- b** 0,02 – 0,04 – 0,08 – 0,16 – 0,32 – 0,64
- c** 1,000 – 0,991 – 0,982 – 0,973 – 0,964 – 0,955

I.97

	Nr. 1	Nr. 2	Nr. 3	Nr. 4	Nr. 5	Nr. 6	Nr. 7	Nr. 8	Nr. 9	Nr. 10
a	0,3	0,6	0,9	1,2	1,5	1,8	2,1	2,4	2,7	3,0
b	0,001	0,002	0,004	0,007	0,011	0,016	0,022	0,029	0,037	0,046
c	0,674	0,669	0,659	0,644	0,624	0,599	0,569	0,534	0,494	0,449

I.98

- a**
- I 0,16 – 0,20 – 0,24
- II 0,025 – 0,031 – 0,037
- III 0,832 – 0,840 – 0,848

- b**
- I 0,40
- II 0,061
- III 0,880

Bls. 21

I.99

- a** 60 **c** 0,9 **e** 800 **g** 8000
- b** 2000 **d** 0,008 **f** 0,002 **h** 0,02

I.100

- a** 900 **c** 9 **e** 0,09 **g** 0,008
- b** 90 **d** 8000 **f** 90 000 **h** 90 000

I.101

- a** 2738,67 **c** 520 891,609
- b** 78 945,372 **d** 9 330 530,905

I.102

- a** 43 506,329 **b** 63 490,84 **c** 582 732,408

Bls. 22

I.103

89 524,376

I.104

- a** 0,159 **c** 0,2948 **e** 0,812
- b** 0,086 **d** 2,13 **f** 1,2925

I.105

- a** 2,90 = 2,9
- b** 0,01 · 10 > 0,001
- c** 0,001 > 0,0009
- d** 4,09 > 4,009
- e** 3 hundraðshlutar = 300 tugþúsundustu hlutar
- f** 134 þúsundustu hlutar = 1340 tugþúsundustu hlutar

I.106

C – A – E – B – D

Bls. 23

I.107

- a** 0,3 kg **d** 2,7 kg **g** 6,0 kg
- b** 6,2 kg **e** 1,4 kg **h** 46,1 kg
- c** 17,5 kg **f** 0,2 kg

I.108

- a** 12 m **d** 9 m **g** 1 m
- b** 17 m **e** 3 m **h** 25 m
- c** 46 m **f** 9 m

I.109

A ≈ 0,2 B ≈ 0,6 C ≈ 0,9 D ≈ 1,3 E ≈ 1,7

I.110

- a** 435 **c** 908 **e** 82 **g** 461
- b** 27 **d** 920 **f** 77 **h** 777

I.111

- a** 500 **c** 700 **e** 23 800 **g** 12 900
- b** 9200 **d** 8100 **f** 78 500 **h** 367 300

Bls. 24

I.112

Já

I.113

Nei

I.114

- a** A og D, B og D,
- b** Hann getur keypt A, B og D
- c** Mörg svör.

I.115

- a** 12,35 + 21,92 ≈ 12 + 22 = 34
- b** 3,19 + 8,54 + 7,29 ≈ 3 + 9 + 7 = 19
- c** 56,32 + 21,79 ≈ 56 + 22 = 78
- d** 37,42 + 99,67 + 62,35 ≈ 37 + 100 + 62 = 199

I.116

- a** 3,7 + 8,1 ≈ 4 + 8 = 12
- b** 9,12 + 14,79 ≈ 9 + 15 = 24
- c** 15,67 – 7,19 ≈ 16 – 7 = 9

- d** $25,91 - 7,04 \approx 26 - 7 = 19$
e $32,9 + 7,3 - 21,7 \approx 33 + 7 - 22 = 18$
f $52,14 - 44,47 + 9,07 \approx 52 - 44 + 9 = 17$

Bls. 25

I.117

- a** 6,4 kg **b** 15,2 kg **c** 11,0 kg **d** 4,2 kg

I.118

- a** 6,8 **c** 9,0 **e** 30,9
b 11,1 **d** 14,4 **f** 91,5

I.119

- a** 4,6 **c** 5,3 **e** 8,4
b 5,8 **d** 8,2 **f** 4,8

I.120

- a** 0,59 **c** 0,39 **e** 1,47
b 0,72 **d** 0,81 **f** 1,71

Bls. 26

I.121

- a** 4,37 **b** 11,83 **c** 35,42 **d** 27,86

I.122

- a** 658,64 **b** 2639,49 **c** 3000,19 **d** 253 518,9

I.123

a	b	c	
14,3	34,8	34,9 eða	34,9
+ 25,7	+ 127,2	+ 84,8	+ 94,8
<u>40,0</u>	<u>162,0</u>	<u>119,7</u>	<u>129,7</u>

d

118,9	eða	218,9	eða	318,9
+ 424,7		+ 424,7		+ 424,7
<u>543,6</u>		<u>643,6</u>		<u>743,6</u>

eða	418,9	eða	518,9
	+ 424,7		+ 424,7
	<u>843,6</u>		<u>943,6</u>

I.124

- a** 8,4 tonn **b** 23,49 tonn **c** 14,29 kg **d** 56,7 kg

I.125

- a** 757,8 **c** 86,162 **e** 10,224
b 410,3 **d** 59,275 **f** 146,074

I.126

- a** 0,82 **c** 0,53 **e** 2
b 0,66 **d** 1,61 **f** 0,9

Bls. 27

I.127

2,76 ljósár

I.128

- a** 4,34 ljósár **b** 1,9 ljósár **c** 2,62 ljósár **d** 2.33 ljósár

I.129

- a** 0,52 **b** 1,25 **c** 2,77 **d** 8,08

I.130

- a** 17,12 **c** 359,34 **e** 4654,55
b 52,36 **d** 221,35 **f** 14 352,2

I.131

- a** 1012,06 **d** 465,001
b 1262,47 **e** 10 357,615
c 70 899,085 **f** 12 803,505

Bls. 28

I.132

a

- 0,07		+ 0,07
1,36	1,43	1,50
0,14	0,21	0,28
7,91	7,98	8,05
5,96	6,03	6,10
10,73	10,8	10,87

b

- 0,96		+ 0,96
0,03	0,99	1,95
0,08	1,04	2
1,99	2,95	3,91
20,44	21,4	22,36
6,04	7	7,96

c

- 9,99		+ 9,99
0,01	10	19,99
13,55	23,54	33,53
10	19,99	29,98
44,11	54,1	64,09
490,01	500	509,99

I.133

- a** 39,53 **b** 15,61

I.134

- a** 3,36 **c** 54,33 **e** 155,42
b 32,62 **d** 68,71 **f** 178,85

I.135

Mismunandi svör:

I.136

Til dæmis:

3 • Bíll C + 1 • Bíll A eða 3 • Bíll A

Bls. 30

Próf**1**

- a** 80 **c** 6000 **e** 40 **g** 0,002
b 700 **d** 10 000 **f** 0,7 **h** 6 000

2

- a** $400 + 30 + 2$
b $600 + 30 + 2$
c $10\,000 + 3000 + 800 + 90 + 2$
d $400\,000 + 50\,000 + 6000 + 100 + 80 + 9$
e $10 + 2 + 0,1$
f $100 + 50 + 2 + 0,7 + 0,05$
g $80 + 7 + 0,09 + 0,002$
h $2000 + 600 + 70 + 3 + 0,9 + 0,06 + 0,001$

3

- a** 35 492 **b** 8 378 363 **c** 4 064 205,68

4

- a** 54 387 **b** 230 975 **c** 1 814 705

5

- a** 7 **b** 17 **c** 16 **d** 24

6

- a** 9° **b** 16° **c** 8° **d** 15°

7

- a** 8 **c** 5 **e** -6 **g** 22
b -4 **d** -9 **f** -13 **h** 32

8

- a** -8° **b** -6° **c** 4°

Bls. 31

9

- a** 4296 **b** 915,4 **c** 443,86

10

- a** 166 **b** 446,3 **c** 30,57

11

- a** 37 548 998 **b** 65 051,214 **c** 3 314 568

12

- a** 14 382 **c** 5200 **e** 56 504
b 1532,1 **d** 173 811 **f** 280,21

13

- a** 778 390 kr. **b** 28 730 kr.

14

770 000 kr.

15

435 kr.

16

820 kr.

17

- a** 15 **b** 10 **c** 75 **d** 60 **e** 29 **f** 132

18

- a** 45 **b** 85 **c** 270 **d** 130 **e** 57 **f** 69

Bls. 32

Æfingasíða 1**I.137**

- a** $200 + 70 + 8$



- b** $100 + 80 + 9$

**I.138**

- a** 5 **b** 8 **c** 9 **d** 6

I.139

- a** 6 **b** 8 **c** 1 **d** 9

I.140

- a** 50 **d** 20 000 **g** 0
b 400 **e** 400 000 **h** 80 000 000
c 7000 **f** 8

I.141

A = 1,7 B = 3,1 C = 6,2 D = 9,8

I.142

A = 0,07 B = 0,21 C = 0,59 D = 0,94

I.143

- a** 5432 **b** 891,7 **c** 528,9 **d** 9809,23

I.144

- a** 15 **c** 9 **e** -34 **g** 21
b -2 **d** -19 **f** -30 **h** 12

Bls. 33

Æfingasíða 2**I.145**

1,3 lítrar

I.146

540 kr.

I.147

- a** 51 **b** 56 **c** 159

I.148

- a** 20 **b** 66 **c** 0

I.149

Mismunandi svör.

I.150

- a** -5 **b** 1700 **c** 10 600 **d** 38 200

I.151

- a** 139 **b** 111 **c** 3280 **d** 37 000

I.152

- a** 35 **b** 2,7 **c** -70 **d** -89 700

I.153

- a** 121 **b** 64

I.154

- a** $50 - (70 - 60) - 10 = 30$
b $145 - 60 - (50 + 30) = 5$
c $600 - (200 - 150 - 50) = 600$
d $(75 - 60) - (50 - 40) = 5$

I.155

- a** 35 **b** 220

Bls. 34

Æfingasíða 3**I.156**

- a** 14 839 **c** 152 363 **e** 981 894
b 120 533 **d** 8582 **f** 1 119 834

I.157

- a** 12 375 **b** 154 575 **c** 8 098 871

I.158

- a** 5896 **c** 1910 **e** 312 936
b 27 566 **d** 5525 **f** 117 386

I.159

- a** 14,7 milljónir **c** 1,5 milljarðar
b 5,77 milljónir **d** 0,45 milljarðar

I.160

- a** 34 579 **b** 97 543 **c** 132 122 **d** 62 964

I.161

- a** 0,83 **b** 1,02 **c** 2,51 **d** 1,23

I.162

- a** = **b** < **c** > **d** < **e** > **f** =

Bls. 35

Geturðu þetta?**I.163**

- a** Sjö 1,5 lítra flöskur og eina 0,5 lítra
b 2205 kr.

I.164

- a** Tvær 1,5 lítra flöskur og tvær 0,5 lítra
b 4 lítrar

I.165

Henrik á 1550 kr.
Nína á 2200 kr.

I.166

14 ára

I.167

13 ára

Bls. 36

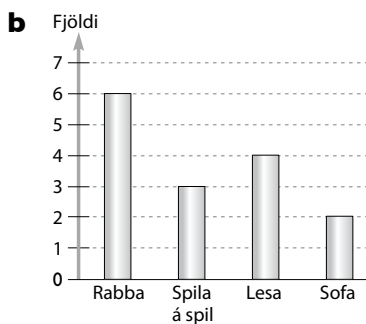
2 Tölfræði og líkur

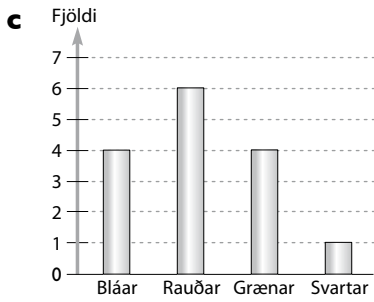
Bls. 37

2.1

a

Athafnir fólks	Fjöldi
Rabba	6
Spila á spil	3
Lesa	4
Sofa	2





2.2

- a** 25% **c** Föstudegi
b Laugardegi **d** Þriðjudegi og sunnudegi

Bls. 38

2.3

- a** Dæmi A **c** 5 nemendur
b 8 nemendur **d** 27 nemendur

2.4

- a** Teningkast 5
b 1 – 1 – 2 – 2 – 2 – 2 – 2 – 3 – 3 – 3 – 3 – 4 – 4 – 4 – 4 – 4 – 4 – 4 – 5 – 5 – 5 – 5 – 5 – 5 – 5 – 5 – 5 – 5 – 6 – 6 – 6 – 6
c Teningkast 4

2.5

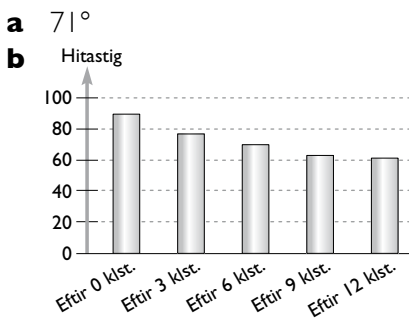
- a** 12 – 12 – 13 – 13 – 13 – 14 – 15 – 16 – 16
Miðgildi: 13 Tíðasta gildi: 13
b 3 – 4 – 4 – 5 – 5 – 6 – 7 – 7 – 7 – 8
Miðgildi: 5,5 Tíðasta gildi: 7
c 27 – 27 – 28 – 28 – 29 – 29 – 30 – 30 – 30 – 31 – 31 – 32
Miðgildi: 29,5 Tíðasta gildi: 30
d 4,5 – 4,5 – 4,5 – 4,7 – 4,7 – 4,8 – 4,8 – 4,9 – 4,9 – 5,0 – 5,1 – 5,1
Miðgildi: 4,8 Tíðasta gildi: 4,5

Bls. 39

2.6

- a** • Tómur: 77 • Hálfullur: 15 • Fullur: 74
b • Tómur: 373 • Hálfullur: 81 • Fullur: 370
c Tómur

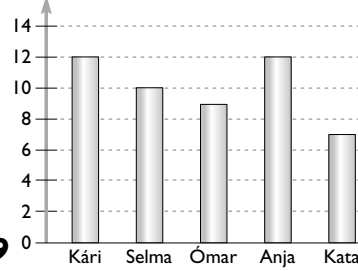
2.7



- c** 57° – 59°

Bls. 40

2.8 Aldur

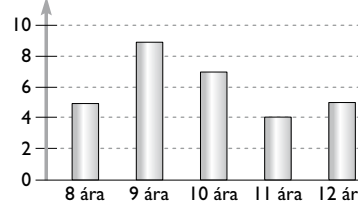


2.9

a

Aldur	Fjöldi
8 ára	5
9 ára	9
10 ára	7
11 ára	4
12 ára	5

b Fjöldi barna



2.10

- a** Mest: kol
Minnst: náttúrugas
b U.þ.b. 500 mg
c U.þ.b. 7 kWh

Bls. 41

2.11

- a** 700 þúsund **b** 900 þúsund

2.12

- a** 2003 **b** 2007

2.13

Á tímabilinu 2007 til 2009

2.14

Fjölgun um 200 þúsund farþega 2005–2007 og 2009–2011

2.15

- a** 150 þús. **b** 200 þús.

2.16

a Um það bil 675 þúsund

2.17

Um það bil 1 milljón

Bls. 42

2.18

- a** Um það bil 50 þús. tonn
b Árið 1975; um það bil 35–40 þús. tonn
c Um það bil 700 þús. tonn

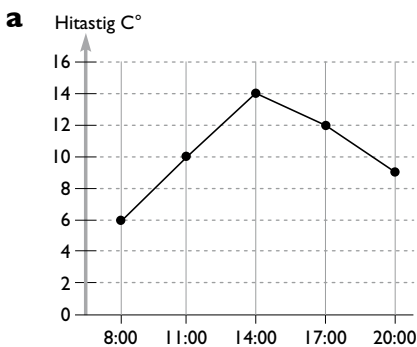
- d** Um það bil 200 þús. tonn
e 1965–1975; aflinn minnkaði um u.þ.b. 700 þús. tonn

2.19

- a** U.þ.b. 35 blaðsíður
b Um kl. 11:45
c Dís
d Kl. 13:00
e Kl. 14:00

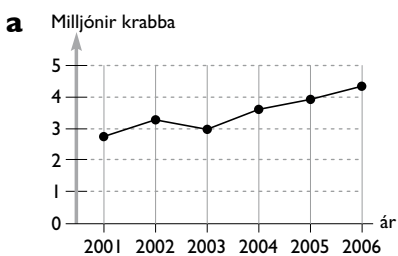
Bls. 43

2.20



- b** Nei
c Hitastigið hækkaði til kl. 14:00. Eftir það lækkaði hitinn.

2.21



- b** • Árið 2007: Um það bil 4,6–4,8
 • Árið 2010: Um það bil 5,9–6,1

2.22

- a** • 4 m kosta 1000 kr.
 • 8 m kosta 2000 kr.
b • Þú færð 6 m fyrir 1500 kr.
 • Þú færð 3 m fyrir 750 kr.
c 250 kr.
d 5000 kr.

Bls. 44

2.23

- a** 500 kr. **b** 250 kr. **c** 250 kr.

2.24

Eistland – Lettland – Litháen – Finnland

Bls. 45

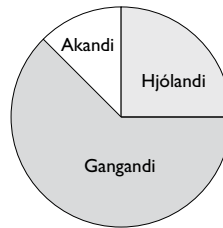
2.25

- a** Sönn **b** Ósönn **c** Ósönn **d** Ósönn

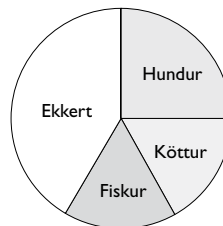
2.26

10 börn

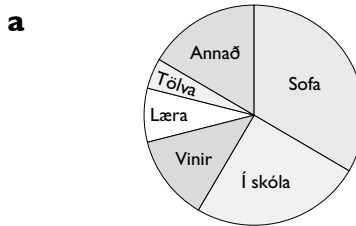
2.27



2.28



2.29



- b** $\frac{1}{3}$ **c** $\frac{1}{12}$ **d** 30 klst.

Bls. 47

2.30

- a** 40 flöskur **b** 10 flöskur

2.31

15 mm

2.32

4 mínútur

2.33

900 kr.

Bls. 48

2.34

- a** 48 mörk **b** 4,8 mörk

2.35

- a** 72 kg **b** 12 kg

2.36

5 mm

2.37

- a** 105 blaðsíður **b** 15 blaðsíður

Bls. 49

2.38

- a** Tíðasta gildi: 15
Miðgildi: 15
Meðaltal: 14
- b** Tíðasta gildi: 9
Miðgildi: 8
Meðaltal: 8
- c** Tíðasta gildi: 1
Miðgildi: 2
Meðaltal: 3

2.39

- a** 11 cm
- b** 11 cm
- c** 9 cm og 11 cm
- d** Stelpurnar

2.40

- a** Tíðasta gildi: 1
Miðgildi: 2
Meðaltal: 2,3
- b** Tíðasta gildi: 3
Miðgildi: 3
Meðaltal: 2,6
- c** Banani

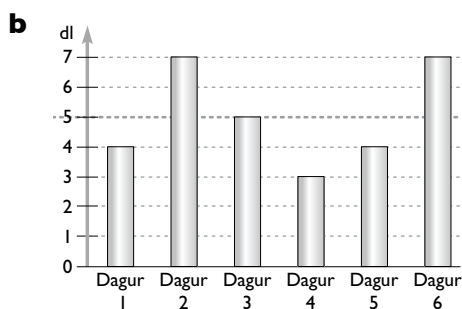
2.41

- a** Miðgildi: 123
Meðaltal: 148
- b** Miðgildi: 13 000
Meðaltal: 15 000
- c** Miðgildi: 430
Meðaltal: 425

Bls. 50

2.42

- a** 5 dl



2.43

- a** 15 mörk **b** 9 mörk

Bls. 51

2.44

1200 kr.

2.45

5600 kr.

2.46

- a** 140 km
- b** 72 mín.

2.47

- a** Miðgildi: 23
Meðaltal: 24
- b** Miðgildi: 23
Meðaltal: 23
- c** Miðgildi: 25
Meðaltal: 25
- d** Miðgildi: 25
Meðaltal: 30

2.48

- a** 17 **b** 16 **c** 12

2.49

- a** 3 **b** 12 **c** 0

2.50

Mismunandi svör:

2.51

Mismunandi svör:

Bls. 52

2.52

Mismunandi svör:

- b** $\frac{1}{2}$

2.53

- a** • Blár: $\frac{1}{6}$ • Grænn: $\frac{2}{6} = \frac{1}{3}$ • Gulur: $\frac{3}{6} = \frac{1}{2}$

b Mismunandi svör:

c Mismunandi svör:

2.54

$A = \frac{1}{5}$ $B = \frac{2}{10} = \frac{1}{5}$ $C = \frac{1}{4}$ $D = \frac{2}{12} = \frac{1}{6}$

Bls. 53

2.55

Mismunandi svör:

2.56

- a** $\frac{1}{2}$ **b** $\frac{1}{4}$ **c** $\frac{4}{52} = \frac{1}{13}$ **d** $\frac{1}{52}$ **e** $\frac{4}{52} = \frac{1}{13}$

2.57

- a** $\frac{12}{52} = \frac{3}{13}$ **b** $\frac{12}{52} = \frac{3}{13}$ **c** $\frac{24}{52} = \frac{6}{13}$

2.58

a $\frac{1}{2}$ b $\frac{1}{4}$ c $\frac{4}{40} = \frac{1}{10}$ d $\frac{12}{40} = \frac{3}{10}$ e $\frac{8}{40} = \frac{1}{5}$

Bls. 55

2.59

a Goa b Bangalore c $\frac{6}{31}$ d $\frac{10}{30} = \frac{1}{3}$

2.60

a $\frac{6}{20} = \frac{3}{10}$ b 3 skipti c Már

2.61

a Tíðasta gildi: 11
Miðgildi: 10,5
Meðaltal: 9,8

b 11 (og 10)

Bls. 56

2.62

a $\frac{3}{12} = \frac{1}{4}$ b $\frac{9}{12} = \frac{3}{4}$ c $\frac{12}{12} = 1$

2.63

8 gular

2.64

Poki A

2.65

a $\frac{8}{20} = \frac{2}{5}$ b 4 stk.

2.66

Að hún dragi gulan mola.

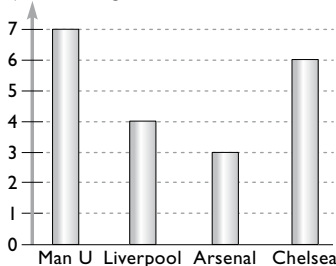
Bls. 58

Próf

I

Lið	Fjöldi
Man U	7
Liverpool	4
Arsenal	3
Chelsea	6

b Fjöldi stuðningsmanna



2

- a Um það bil 1400 kr. b Árið 2005
 c Um það bil 750 d Um það bil 1600 kr.
 e Um það bil 400 kr. f Milli árána 2002 og 2003

3

a 12 nemendur b á Þingvelli c $\frac{3}{12} = \frac{1}{4}$

Bls. 59

4

a 3 kg b 4 kg c 4,5 kg

5

- a Meðaltal: 30
Miðgildi: 30
Tíðasta gildi: 20
 b Meðaltal: 400
Miðgildi: 200
Tíðasta gildi: 200

6

a Kl. 08:48 b Kl. 08:49

7

a $\frac{1}{12}$ b $\frac{6}{12} = \frac{1}{2}$ c $\frac{6}{12} = \frac{1}{2}$

8

a $\frac{10}{40} = \frac{1}{4}$ b $\frac{4}{40} = \frac{1}{10}$ c $\frac{1}{2}$

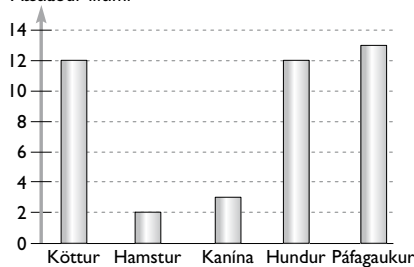
d $\frac{12}{40} = \frac{3}{10}$ e $\frac{8}{40} = \frac{1}{5}$

Bls. 60

Æfingasíða I

2.67

Áætlaður líftími



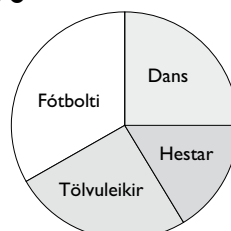
2.68

1 - C 2 - A 3 - D 4 - B

2.69

a 8 kennarar b 2 kennarar c 12 kennarar

2.70



Bls. 61

Æfingasíða 2

2.71

a 24 bitar b 6 bitar

2.72

4 klst.

2.73

a 37 m b 36 m c 36 m d Tíðasta gildið

2.74

a Tíðasta gildi: 14
Miðgildi: 14
Meðaltal: 15
b Tíðasta gildi: 100
Miðgildi: 150
Meðaltal: 160
c Tíðasta gildi: 4
Miðgildi: 4
Meðaltal: 4

2.75

a 8 klst. b 3 klst. c 4,5 klst.

Bls. 62

Æfingasíða 3

2.76

a $\frac{1}{6}$ b $\frac{3}{6} = \frac{1}{2}$ c $\frac{2}{6} = \frac{1}{3}$

2.77

a 3 köstum d $\frac{5}{36}$ g $\frac{11}{36}$
b $\frac{3}{36} = \frac{1}{12}$ e 7
c 5 köstum f 11 köst h $\frac{1}{2}$

Bls. 63

Geturðu þetta?

2.78

2,3

2.79

16

2.80

a $\frac{1}{4}$ b $\frac{1}{12}$ c 19 manns d 45 manns

2.81

Línurit 1

2.82

Ari fékk 26 stig
Birkir fékk 32 stig
Karl fékk 30 stig
Daði fékk 24 stig

Bls. 64

3 Margföldun og deiling

Bls. 65

3.1

a 40 cm b 1 m c 4 m

3.2

a 30 cm b 40 cm c 5 m

3.3

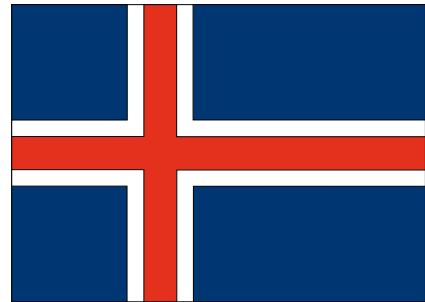
a 15 cm b 60 cm c 1,5 m

3.4

a 40 cm b 50 cm c 4 m

3.5

Fáni B



Bls. 66

3.6

a 1 : 5 b 5 : 2

3.7

3 : 7

3.8

a 1 : 4 c 4 : 6 = 2 : 3 e 2 : 2 = 1 : 1
b 6 : 2 = 3 : 1 d 6 : 1

3.9

a 2 : 4 = 1 : 2 c 3 : 7
b 1 : 5 d 5 : 5 = 1 : 1

3.10

a 8 : 8 = 1 : 1 c 4 : 12 = 1 : 3
b 6 : 10 = 3 : 5 d 9 : 11

Bls. 67

3.11

a $3:6 = 1:2$ **b** $1:2$

3.12

a $3:1$ **b** $1:2$ **c** $2:3$

Bls. 68

3.13

Þyngd hundsins (kg)	Þurrfóður á dag (g)	Hlutföll þyngd: þurrfóður
5	125	1 : 25
10	200	1 : 20
20	280	1 : 14
30	360	1 : 12
50	500	1 : 10

3.14

a 125 g **b** 875 g **c** 3750 g (30 dagar)

3.15

a 360 g **b** 2520 g **c** 10 800 g (30 dagar)

3.16

38 dagar

3.17

50 kg

3.18

Þjörn: 15 m/sek.

Hestur: 22 m/sek.

Hlébarði: 33 sm/ek.

Héri: 20 m/sek.

Fíll: 10 m/sek.

Bls. 69

3.19

5 : 2

3.20

11 200 sinnum

3.21

666 og $\frac{2}{3}$

3.22

a 8 blaðsíður **b** 1,5 mínútur

3.23

a A = 2 : 1 C = 3 : 1 E = 4 : 3

B = 3 : 2 D = 5 : 2 F = 3 : 2

b B og F

c 6 lítra

d 1,2 lítra

Bls. 70

3.24

12 mismunandi brauðsneiðar

3.25

10 mismunandi bílar

3.26

Tólf mismunandi leiðir

3.27

32 matseðlar

3.28

36 summur

Bls. 71

3.29

10 upphæðir

3.30

6 jólapoka

3.31

a 15 ólíkar samsetningar **b** 21 möguleiki á samsetningum

3.32

a 28 pör **b** 45 pör **c** 4950 pör

Bls. 72

3.33

a 1, 2, 3, 4, 6, 12

e 1, 2, 3, 5, 6, 10, 15, 30

b 1, 3, 9

f 1, 5, 7, 35

c 1, 2, 4, 5, 10, 20

g 1, 2, 3, 4, 6, 9, 12, 18, 36

d 1, 3, 7, 21

h 1, 2, 4, 13, 26, 52

3.34

a Frumtala

e Samsett tala

b Samsett tala

f Frumtala

c Samsett tala

g Samsett tala

d Samsett tala

h Samsett tala

3.35

a 2, 3

c 2, 17

e 2, 5

g 2

b 5

d 3, 13

f 3, 5

h 7, 11

3.36

11 og 13

17 og 19

29 og 31

41 og 43

59 og 61

71 og 73

Bls. 74

3.37

a 40 **c** 130 **e** 420 **g** 1240
b 80 **d** 200 **f** 750 **h** 34 050

3.38

a 48 **c** 90 **e** 186 **g** 126
b 98 **d** 96 **f** 150 **h** 216

3.39

a 162 **c** 58 **e** 301 **g** 456
b 52 **d** 315 **f** 340 **h** 684

3.40

a 140 **d** 480 **g** 1760
b 300 **e** 910 **h** 1250
c 360 **f** 450 **i** 2040

Bls. 75

3.41

a 500 **c** 1800 **e** 9000 **g** 27 000
b 1200 **d** 3700 **f** 15 000 **h** 145 000

3.42

a 2400 **c** 3600 **e** 10 800
b 2000 **d** 6500 **f** 27 000

3.43

a 12 000 **c** 75 000 **e** 192 000
b 36 000 **d** 78 000 **f** 265 000

3.44

a 369 **c** 1057 **e** 512 **g** 6125
b 544 **d** 1470 **f** 1024 **h** 9468

3.45

a 390 **c** 304 **e** 1075 **g** 2046
b 527 **d** 648 **f** 2310 **h** 3432

Bls. 76

3.46

155 kr.

3.47

146 kr.

3.48

a 64 kr. **b** 59 kr. **c** 54 kr. **d** 67 kr.

3.49

a 137 **c** 164 **e** 76 **g** 59
b 236 **d** 162 **f** 84 **h** 64

3.50

a 126 og 1 afgangs **e** 48 og 2 afgangs
b 114 og 2 afgangs **f** 243 og 3 afgangs
c 217 og 2 afgangs **g** 47 og 4 afgangs
d 67 og 4 afgangs **h** 206 og 2 afgangs

3.51

a 263 **e** 2177 og 1 afgangs
b 245 **f** 217 og 6 afgangs
c 302 og 3 afgangs **g** 155
d 416 **h** 900 og 3 afgangs

Bls. 77

3.52

a 6 **b** 6 **c** 6 **d** 9 **e** 8 **f** 5

3.53

a 20 **b** 12 **c** 35 **d** 20 **e** 15 **f** 40

3.54

a 5 **b** 40 **c** 5 **d** 50 **e** 80 **f** 50

3.55

a 3 og 2 afgangs **e** 3 og 2 afgangs
b 4 og 3 afgangs **f** 5 og 5 afgangs
c 6 **g** 3 og 12 afgangs
d 6 og 8 afgangs **h** 2 og 3 afgangs

3.56

a 24 og 3 afgangs **e** 19 og 10 afgangs
b 68 **f** 24
c 17 **g** 34 og 12 afgangs
d 27 **h** 13 og 17 afgangs

Bls. 78

3.57

a 4,5 **c** 14,4 **e** 18,5 **g** 33,6
b 6,4 **d** 11,2 **f** 30,1 **h** 35,4

3.58

a 22,2 **c** 44,1 **e** 39,6 **g** 126,5
b 14 **d** 53,6 **f** 100 **h** 192,6

3.59

a 1,2 **b** 3,5 **c** 3 **d** 2,8

3.60

a 2,4 **c** 2,1 **e** 4 **g** 4,2
b 0,24 **d** 0,21 **f** 0,4 **h** 0,42

3.61

a 0,72 **c** 0,85 **e** 1,15 **g** 0,76
b 0,42 **d** 1,12 **f** 1,04 **h** 3,36

Bls. 79

3.62

B: 16,20 kr. C: 36,60 kr. D: 24,50 kr. E: 23,80 kr.

3.63

a 12,6 **c** 27,5 **e** 13,3 **g** 42,2
b 22,5 **d** 21,5 **f** 34,6 **h** 41,5

3.64

Rúnar: 25 bönd
Katrín: 35 bönd
Magnús: 45 bönd

Bls. 80

3.65

a 12,80 kr. **g** 80 km
b 2040 m = 2,04 km **h** 1 klst. og 20 mínútur
c 18 km **i** 2 klst. og 15 mínútur
d 42 km **j** Kl. 11:05
e 4 km **k** U.þ.b. 11,5 lítri
f U.þ.b. 13,9 km

Bls. 81

3.66

	A	B	C	D	E
1	ORKUSPARNÁÐUR RAFMAGNSTÆKI				
2		Mikið	Lítið	Sparast	Sparast
3		kWh	kWh	kWh	krónur
4	Ísskápur	406	177	=B4-C4	=D4*13,22
5	Sjónvarp 3 klst./dag	420	180	=B5-C5	D5*13,22
6	Þvottavél	460	200	B6-C6	D6*13,22
7	Þurrkari	600	375	B7-C7	D7*13,22
8	Summa				=SUM(E4:E7)

3.67

	A	B	C	D	E
1	ORKUSPARNÁÐUR LJÓSAÞVERUR				
2	Vött á hverja peru	Fjöldi pera	Straumur á dag	Straumur á ári	Kostnaður á ári
3	40	6	=A3*B3*6	=C3*365	=D3/1000*13,22
4	60	3	=A4*B4*6	=C4*365	=D4/1000*13,22
5	Summa		=SUM(C3:C4)	=SUM(D3:D4)	=SUM(E3:E4)
6					
7	II	9	=A7*B7*6	=C7*365	=D7/1000*13,22
8	Sparast				=SUM(E5-E7)

Bls. 82

3.68

$200 - (90 + 30) = 80$

3.69

$300 - (150 - 90) = 240$

3.70

$80 - (25 + 34) = 21$

3.71

$190 - (30 + 12) = 148$

3.72

$450 - (380 - 120) = 190$

3.73

a 750 **c** 500 **e** 225
b 450 **d** 1160 **f** 690

Bls. 83

3.74

$4 \cdot (50 + 70) = 480$

3.75

$5 \cdot (5 + 2) = 35$

3.76

$3 \cdot (400 + 2000) = 7200$

3.77

$5 \cdot (6 + 4) = 50$

3.78

$9 \cdot (12 + 8) = 180$

Bls. 84

3.79

$400 : (5 + 3) = 50$

3.80

$1500 : (110 + 40) = 10$

3.81

$500 : (16 + 9) = 20$

3.82

$2000 : (130 + 70) = 10$

3.83

a 4 **b** 15 **c** 200 **d** 6 **e** 6 **f** 13

3.84

a 72 **c** 121 **e** 3700
b 68 **d** 360 **f** 6500

Bls. 85

3.85

$(450 - 100) : 10 = 35$

3.86

$(200 - 60) : 10 = 14$

3.87

A – 5 B – 4 C – 1 D – 6 E – 2 F – 3

Bls. 86

3.88

$8 + 4 \cdot 10 = 48$

3.89

$200 - 20 \cdot 7 = 60$

3.90

$150 + 0,5 \cdot 700 = 500$ eða $150 + 700 : 2 = 500$

3.91

a $60 - 32 = 28$ **b** $8 + 30 = 38$ **c** $50 - 21 = 29$

Bls. 87

3.92

a $100 - 25 = 75$ **d** $50 - 30 = 20$
b $120 + 10 = 130$ **e** $49 + 65 = 114$
c $35 + 100 = 135$ **f** $300 - 200 = 100$

3.93

a $15 + 12 = 27$ **d** $500 + 150 = 650$
b $24 + 24 = 48$ **e** $72 - 40 = 32$
c $40 + 42 = 82$ **f** $160 - 120 = 40$

3.94

a $200 + 150 - 40 = 310$
b $1000 - 360 + 450 = 1090$

3.95

a $1000 - 476 = 524$ **d** $31 \cdot 240 = 7440$
b $3500 - 1686 = 1814$ **e** $1168 - 9 = 1159$
c $5 \cdot 43 = 215$ **f** $73 \cdot 7 = 511$

3.96

a $182 : 7 = 26$ **d** $306 : 18 = 17$
b $2310 : 385 = 6$ **e** $306 + 2 = 308$
c $318 : 6 = 53$ **f** $25,5 + 6 = 31,5$

3.97

a $30 - 125 = -95$ **d** $523 - 120 - 45 = 358$
b $5 \cdot 5 = 25$ **e** $523 - 165 = 358$
c $523 - 75 = 448$ **f** $306 - 120 + 45 = 231$

3.98

a $98 + 72 - 95 + 222 = 297$
b $44 \cdot 9 + 170 \cdot 4 - 16 \cdot 31 = 396 + 680 - 496 = 580$

Bls. 88

3.99

a 4 **b** 8 **c** 10 **d** 30 **e** 2 **f** 1

3.100

a 4 **b** 12 **c** 24

3.101

a 6 **b** 10 **c** 36

3.102

a 5 **b** 7 **c** 150

3.103

a 5 **b** 6 **c** 6

3.104

a 7 **b** 36 **c** 3

3.105

a 6 **b** 11 **c** 19

3.106

Mismunandi svör:

Bls. 90

Próf**1**

a 1, 3, 5, 15 **c** 1, 2, 4, 5, 8, 10, 20, 40
b 1, 2, 3, 4, 6, 8, 12, 24 **d** 1, 7, 49

2

17 og 29

3

a 60 **b** 120 **c** 2070 **d** 3500

4

a 5 **b** 18 **c** 43 **d** 650

5

a 180 **b** 420 **c** 520 **d** 4500

6

a 104 **b** 280 **c** 384 **d** 1757

7

a 195 **b** 442 **c** 1470 **d** 1566

8

a 13,8 **b** 46,2 **c** 0,24 **d** 3,12

9

a 146 **c** 76 og 2 afgang
b 236 **d** 1264 og 1 afgang

10

a 7 **b** 8 **c** 26 **d** 21 og 13 afgang

11

a 14,7 **b** 37,3 **c** 16 **d** 26

12

a $16:4 = 4:1$ **b** $6:12 = 1:2$

13

A $4:2 = 2:1$ **B** $3:6 = 1:2$ **C** $2:8 = 1:4$

Bls. 91

14

120 kg

15

a 20 kg **b** 30 kg

16

32 mín.

17

10 leiðir

18

18 ólíka verðlaunagrip

19

a 75 **b** 52 **c** 40

20

a 65 **b** 16 **c** 91

21

a 14 **b** 2 **c** 9

22

a 33 **b** 52 **c** 98

Bls. 92

Æfingasíða 1

3.107

a 630 kr. **b** 1008 kr. **c** 2520 kr. **d** 10080 kr.

3.108

a 12 \$ **b** 21 \$ **c** 100 \$ **d** 200 \$

3.109

a 5670 kr. **c** 15 120 kr. **e** 44 100 kr.
b 109 620 kr. **d** 51 660 kr. **f** 176 400 kr.

3.110

a 1086 kr. **c** 9018 kr. **e** 40 915 kr.
b 2470 kr. **d** 16 254 kr. **f** 79 610 kr.

Bls. 93

Æfingasíða 2

3.111

a 50 **b** 80 **c** 130 **d** 1800

3.112

a 120 **b** 210 **c** 400 **d** 2700

3.113

16 800 kr.

3.114

a 75 **c** 184 **e** 152 **g** 1107
b 170 **d** 364 **f** 258 **h** 1632

3.115

a 6,4 **c** 11,6 **e** 30,1 **g** 113,6
b 9,1 **d** 33,6 **f** 1,02 **h** 2,24

3.116

a 255 m² **b** 468 m²

3.117

a 216 **b** 325 **c** 512 **d** 648

3.118

137 kr.

3.119

a 6 **b** 13 **c** 60 **d** 305

3.120

a 37 **c** 42 og 2 afgang
b 238 **d** 126 og 6 afgang

3.121

a 6 **c** 7 og 4 afgang
b 6 og 5 afgang **d** 4 og 12 afgang

3.122

a 21,6 **b** 54,8 **c** 5 **d** 26

3.123

a 2,6 **c** 8,6 **e** 10
b 4,9 **d** 720 **f** 2500

Bls. 94

Æfingasíða 3

3.124

$200 - (105 + 78) = 17$

3.125

$700 - (630 - 190) = 260$

3.126

$3 \cdot (250 + 60) = 930$

3.127

$90 : (4 + 2) = 15$

3.128**a** 37 **b** 148 **c** 965**3.129****a** 117 **b** 55 **c** 184**3.130****a** 13 **b** 2 **c** 37**3.131****a** 22 **b** 47 **c** 190**3.132**

a $(1 \cdot 2) + 3 + 4 = 9$ **d** $(1 + 2) + (3 \cdot 4) = 15$
b $1 + (2 \cdot 3) + 4 = 11$ **e** $(1 + 2) \cdot (3 + 4) = 21$
c $(1 + 2) \cdot 3 + 4 = 13$ **f** $(1 + 2 + 3) \cdot 4 = 24$

3.133**a** 2 **b** 7 **c** 6

Bls. 95

Geturðu þetta?**3.134**

a 64 **c** 67 **e** 72
b 53 **d** 59 **f** 83

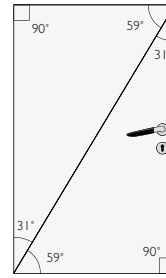
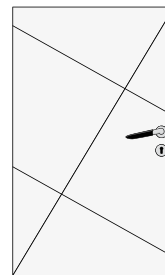
3.135

a $2,5 \cdot 0,8$ **d** $0,8 \cdot 0,8$ **g** $12 \cdot 3,25$
b $6 \cdot 7,5$ **e** $0,8 \cdot 0,5$ **h** $12 \cdot 0,8$
c $2,5 \cdot 2,2$ **f** $4,1 \cdot 2,2$ **i** $6 \cdot 3,25$

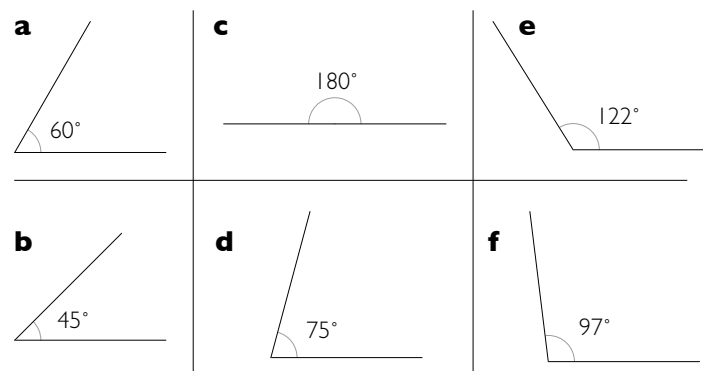
Bls. 96

4 Rúmfræði

Bls. 97

4.1**4.2****b** 10 cm**4.3****b** 1,5 cm**4.4****a** 1,2 m **b** 2,32 m**4.5**

Bls. 98

4.6**4.7**

Bls. 99

4.8

$a = 30^\circ$ $b = 80^\circ$ $c = 170^\circ$

4.9

a $a = 235^\circ$ $b = 135^\circ$
b $c = 125^\circ$ $d = 255^\circ$
c $a = 195^\circ$
d $b = 310^\circ$

4.10

Verkefni	Hornið a	Hornið b	Summa
a	110°	70°	180°
b	135°	45°	180°
c	85°	95°	180°

Bls. 100

4.11

a 120° **b** 135° **c** 55° **d** 165°

4.12

a I: $a = 110^\circ$ $b = 60^\circ$ $c = 130^\circ$
II: $a = 25^\circ$
III: $a = 125^\circ$ $b = 55^\circ$ $c = 35^\circ$
b 360

4.13

a $a = 40^\circ$ $b = 120^\circ$ $c = 65^\circ$ $d = 135^\circ$
b 360°

4.14

a Ferhyrmingur: $a = 66^\circ$ $b = 38^\circ$ $c = 118^\circ$ $d = 62^\circ$
Fimmhyrmingur: $a = 69^\circ$ $b = 77^\circ$ $c = 92^\circ$ $d = 32^\circ$
b 360°
c Summan af ytri hornum marghyrnings er 360°.

Bls. 101

4.15

a $a = 45^\circ$ $b = 135^\circ$ $c = 45^\circ$ $d = 135^\circ$
b Mismunandi svör.
c 180°
d 360°
e a og c, b og d

4.16

a $b = 50^\circ$ $c = 130^\circ$ $d = 50^\circ$
b $b = 135^\circ$ $c = 45^\circ$ $d = 135^\circ$
c $a = 150^\circ$ $b = 30^\circ$ $c = 150^\circ$
d $a = 95^\circ$ $c = 95^\circ$ $d = 85^\circ$

4.17

a $a = 21^\circ$ $c = 21^\circ$ $d = 159^\circ$
b $a = 50,5^\circ$ $b = 129,5^\circ$ $c = 50,5^\circ$
c $a = 73^\circ$ $b = 107^\circ$ $d = 107^\circ$

Bls. 102

4.18

Ferhyrmingur 1: $a = 120^\circ$ $b = 67^\circ$ $c = 83^\circ$
Ferhyrmingur 2: $a = 119^\circ$ $d = 41^\circ$ $g = 102^\circ$
 $b = 119^\circ$ $e = 139^\circ$
 $c = 61^\circ$ $f = 78^\circ$

4.19

$a = 118^\circ$ $b = 105^\circ$ $c = 103^\circ$ $d = 113^\circ$ $e = 101^\circ$

4.20

Mismunandi svör.

Bls. 103

4.21

• 80° • 125° • 190° • 315°

4.22

a 190° **b** 170° **c** 360°

4.23

a 90° **b** 45° **c** 60°

Bls. 105

4.24

Hringir: A, C og F Ekki hringir: B, D og E

4.25

30 cm

4.26

a 18 cm **b** 52 cm **c** 86 cm **d** 76 cm

4.27

a 6 cm **b** 13 cm **c** 19 cm **d** 81 cm

Bls. 106

4.28

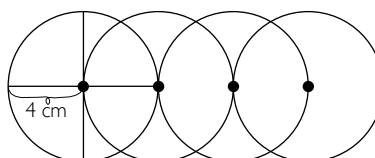
Mismunandi svör.

4.29

Mismunandi svör.

4.30

a-c Kennari skoðar verkefni nemenda.



4.31

Mismunandi svör.

Bls. 107

4.32

a 120° **b** 45° **c** 60°

4.33

a 36° **b** 40° **c** 30°

4.34

a-c Kennari skoðar verkefni nemenda.

d Því stærri geiri sem klipptur er úr hringnum því þrengra verður kramarhúsið.

Bls. 108

4.35

Vera í tölvunni: 144° Vera úti...: 72°

Í fótbolta: 72° Annað: 72°

4.36

Gangandi: 180° Á hjóli: 120° Í bíl: 60°

4.37

a Finnland: 150° Eistland: 38°

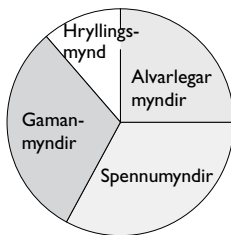
Letland: 72° Litháen: 100°

b 360°

c Nei

d Nei

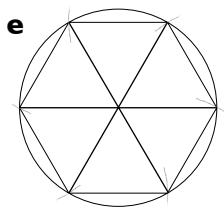
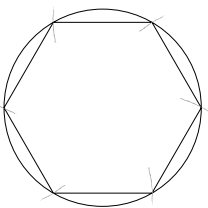
4.38



Bls. 109

4.39

a-d



d Sexhyrningur

e Hring, jafnarma þríhyrning, tígul, trapísu, sexhyrning

4.40

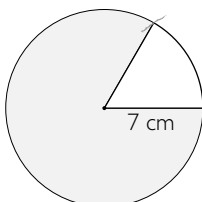
a Allar hliðar eru 2 cm

b Öll hornin eru 60°

c Jafnhliða þríhyrningur

4.41

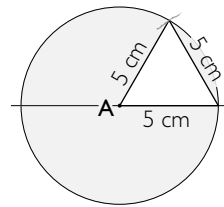
a-c



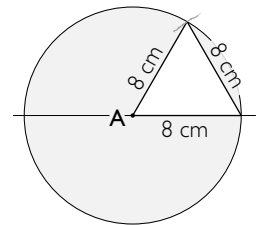
d 60°

4.42

a



b



Bls. 110

4.43

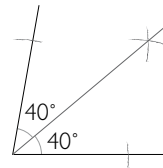
b 90° **c** 45°

4.44

Mismunandi svör.

4.45

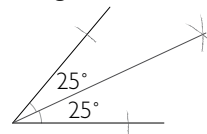
a og b



c Bæði hornin eru 40°

4.46

a og b



c Bæði hornin eru 25°

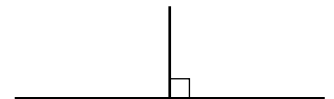
4.47

A: 65° B: 80°

4.48

Hornið 180° er bein lína.

Helmingur hornsins er 90° .



Bls. 111

4.49

Kennari skoðar teikningar nemenda.

4.50

Kennari skoðar teikningar nemenda.

Bls. 112

4.51

a Mismunandi teikningar.

b 90°

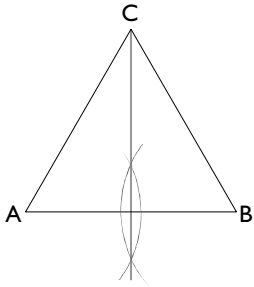
4.52

a Mismunandi teikningar.

b 90°

4.53

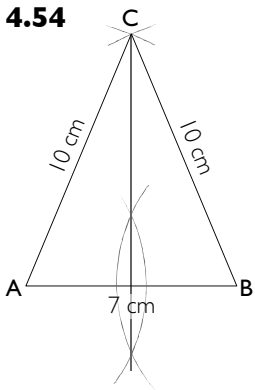
a



d Mismunandi teikningar eftir því hvar C er staðsett.

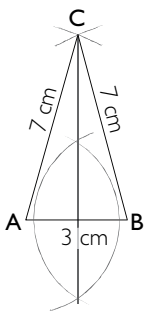
e Jafnarma þríhyrningur.

4.54

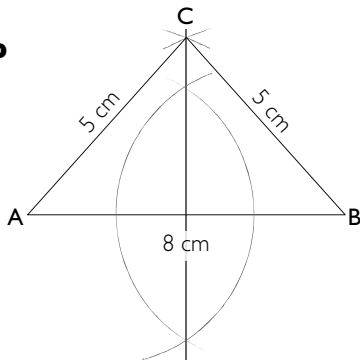


4.55

a

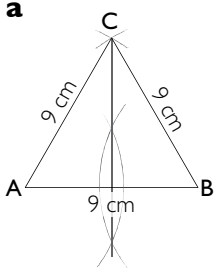


b

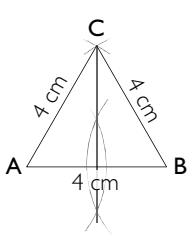


4.56

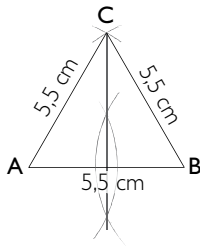
a



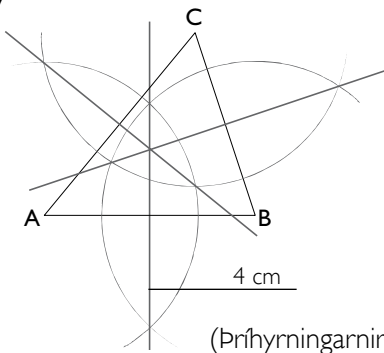
b



c



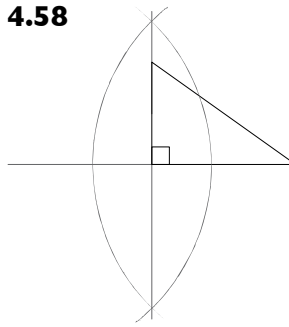
4.57



(Þríhyrningarnir geta verið ólíkir)

c Miðperlarnir skerast alltaf í einum punkti.

4.58



Bls. 113

4.59

- 1 – (ílangur) rétthyrningur
- 2 – rétthyrndur þríhyrningur
- 3 – tígull
- 4 – trapisa
- 5 – rétthyrndur þríhyrningur
- 6 – jafnhliða þríhyrningur
- 7 – ferningur
- 8 – jafnarma þríhyrningur
- 9 – (ílangur) rétthyrningur
- 10 – samsíðungur

4.60

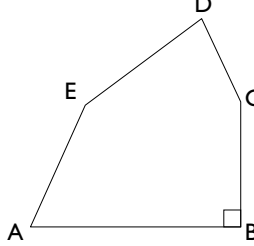
- a 3, 6 og 7
- b 1, 3, 7, 9 og 10
- c 8
- d 1, 3, 7, 9 og 10
- e 1, 3, 4, 7, 9 og 10
- f 1, 7 og 9
- g 2 og 5
- h 1, 3, 7, 9 og 10

4.61

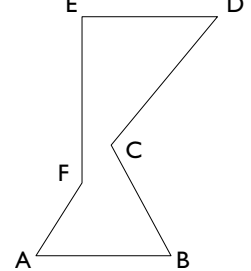


4.62

a T.d.



b T.d.



Bls. 114

4.63

a	∠A	∠B	∠C	Summa hornanna
Þríhyrningur 1	55°	55°	70°	180°
Þríhyrningur 2	30°	65°	85°	180°
Þríhyrningur 3				
Þríhyrningur 4				

b Mismunandi teikningar nemenda.

4.64

Hornasumma þríhyrnings er alltaf 180°

4.65 $\angle C = 70^\circ$ $\angle E = 25^\circ$ $\angle H = 58^\circ$

Bls. 115

4.66

	AB	AC	BC	$\angle A$	$\angle B$	$\angle C$
Þríhyrningur 1	5,4	5,4	5,4	60°	60°	60°
Þríhyrningur 2	7,6	5,4	5,4	45°	45°	90°
Þríhyrningur 3	6,4	3,6	7,4	90°	30°	60°
Þríhyrningur 4	6,5	5,4	6,5	65°	50°	65°

Þríhyrningur 1: Jafnhliða þríhyrningur
 Þríhyrningur 2: Réttthyndur, jafnarma þríhyrningur
 Þríhyrningur 3: Réttthyndur þríhyrningur
 Þríhyrningur 4: Jafnarma Þríhyrningur

4.67

a $C = 65^\circ$ b $E = 45^\circ$

4.68

a $B = 40^\circ$ $C = 100^\circ$
 b $E = 35^\circ$ $F = 35^\circ$

Bls. 116

4.69

a Sum hornin námunduð að heilum og hálfum tug.

	AB	DC	AD	BC	$\angle A$	$\angle B$	$\angle C$	$\angle D$
Ferhyrningur 1	6 cm	3,8 cm	3,1 cm	2,8 cm	60°	75°	105°	120°
Ferhyrningur 2	5,1 cm	5,1 cm	2,8 cm	2,8 cm	65°	115°	65°	115°
Ferhyrningur 3	4,2 cm	4,2 cm	4,2 cm	4,2 cm	148°	32°	148°	32°

b **Ferhyrningur 1** (trapisa): Allar hliðarnar mislangar.
 Tvö horn eru hvöss og tvö gleið. Tvær samsíða hliðar.
Ferhyrningur 2 (samsíðungur): Tvær og tvær hliðar jafn langar og samsíða. Tvö og tvö horn jafn stór.
Ferhyrningur 3 (tígull): Allar hliðar jafn langar.
 Tvær og tvær hliðar samsíða. Tvö og tvö horn jafn stór.

4.70

a $A = 35^\circ$ $B = 145^\circ$ $D = 145^\circ$
 b $B = 40^\circ$ $C = 140^\circ$ $D = 40^\circ$
 c $A = 90^\circ$ $B = 90^\circ$ $C = 55^\circ$

Bls. 117

4.71

2 og 5

4.72

1 og 4

Bls. 118

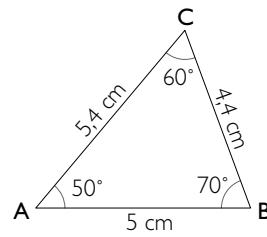
4.73

a

	AB	BC	AC	$\angle A$	$\angle B$	$\angle C$
Þríhyrningur 1	5 cm	4,4 cm	5,4 cm	50°	70°	60°
Þríhyrningur 2	7,5 cm	6,6 cm	8,1 cm	50°	70°	60°
Þríhyrningur 3	4,4 cm	5,4 cm	5 cm	70°	60°	50°

b Þríhyrningur 1 og þríhyrningur 3 eru eins.
 Þríhyrningur 2 er eins í laginu og þríhyrningar 1 og 3.

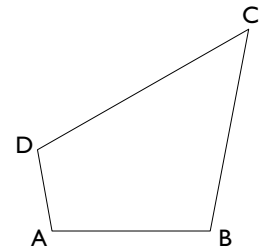
c



4.74

a
 $AB = 3,8$ cm $AD = 2$ cm
 $DC = 5,9$ $BC = 5$ cm
 $\angle A = 100^\circ$ $\angle C = 50^\circ$
 $\angle B = 100^\circ$ $\angle D = 110^\circ$

b Kennari athugar teikningar nemenda.



4.75

Kennari athugar teikningar nemenda.

Bls. 119

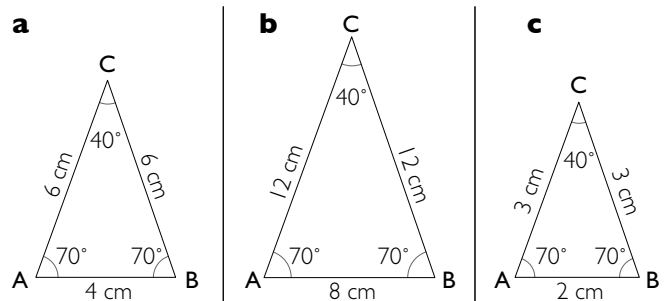
4.76

a $A = 50^\circ$ $B = 65^\circ$ $C = 65^\circ$
 b $A = 50^\circ$ $D = 65^\circ$ $E = 65^\circ$
 c $A = 50^\circ$ $F = 65^\circ$ $G = 65^\circ$
 d Hornin eru jafn stór.

4.77

Kennari athugar teikningar nemenda.

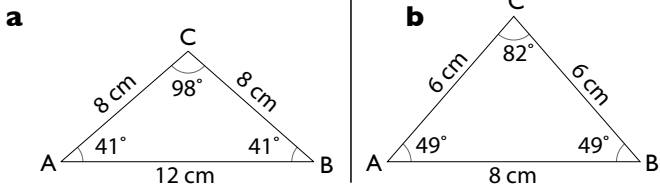
4.78



	AB	BC	AC	$\angle A$	$\angle B$	$\angle C$
Þríhyrningar 1	4 cm	6 cm	6 cm	70°	70°	40°
Þríhyrningar 2	8 cm	12 cm	12 cm	70°	70°	40°
Þríhyrningar 3	2 cm	3 cm	3 cm	70°	70°	40°

d Allir þríhyrningarnir eru jafnarma.
 Tvö horn í hverjum þríhyrningi jafn stór.

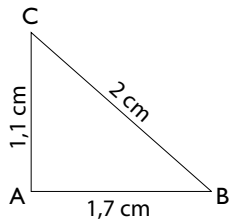
4.79



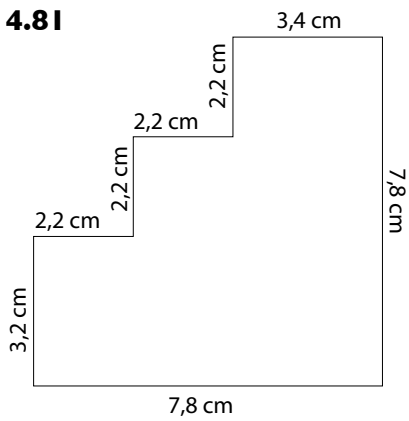
c Nei

Bls. 120

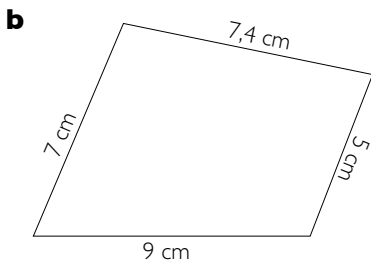
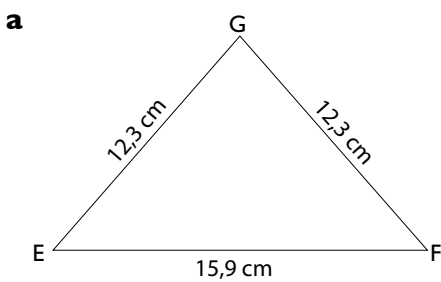
4.80



4.81



4.82



Bls. 121

4.83

- a** 2 : 1 EF = 16 cm GH = 18 cm EH = 20 cm
b 1 : 4 FG = 6 cm GH = 2 cm HI = 4 cm
 FJ = 3 cm
c 5 : 1 AB = 6 cm EF = 3 cm HI = 20 cm
 IJ = 15 cm GL = 40

Bls. 122

4.84

Ferrari: Lengd er 4,5 m, breidd er 2,16 m
 Sky Ace: Lengd er 12,72 m, breidd er 10,08 m
 NMJ: Lengd er 7,656 m, breidd er 3,393 m

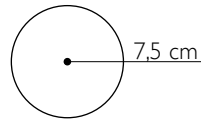
4.85

AB = 4 cm BC = 5 cm AC = 8 cm

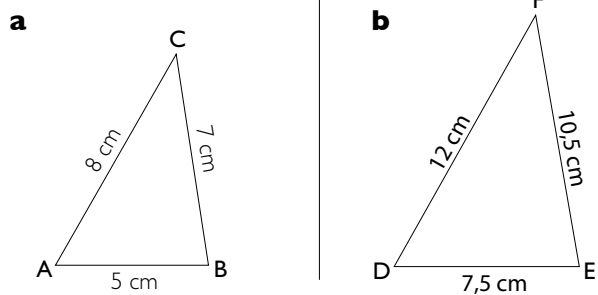
4.86

5 cm

4.87



4.88



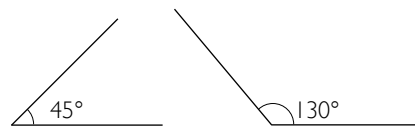
Bls. 124

Próf

1

$\angle a = 70^\circ$ $\angle b = 110^\circ$

2



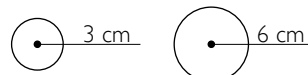
3

a 130° **b** 66°

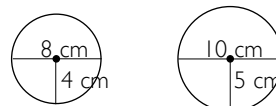
4

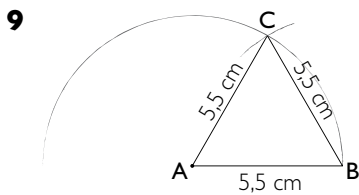
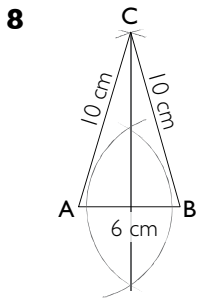
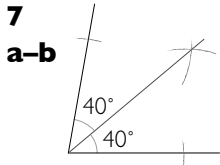
a $\angle b = 150^\circ$ $\angle c = 30^\circ$ $\angle d = 150^\circ$
b $\angle b = 95^\circ$ $\angle c = 85^\circ$ $\angle d = 95^\circ$

5



6

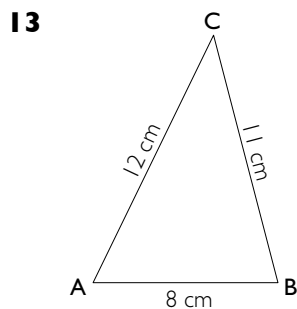




- 10**
- 1 = Fermingur
 - 2 = (Ílångur) rétthyrningur
 - 3 = Trapisa
 - 4 = Rétthyrmdur þríhyrningur
 - 5 = Samsíðungur
 - 6 = Tígull

- 11**
- a** $\angle A = 55^\circ$
 - b** $\angle A = 70^\circ$ $\angle B = 70^\circ$

- 12**
- a** $\angle A = 65^\circ$ $\angle B = 115^\circ$ $\angle D = 115^\circ$
 - b** $\angle B = 65^\circ$ $\angle C = 115^\circ$ $\angle D = 65^\circ$

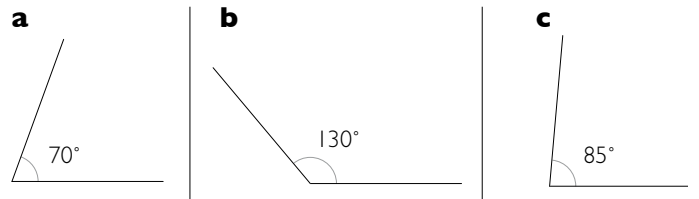


- 14**
- a** 1 : 6
 - b** $FG = 24$ $GH = 12$ $EH = 30$

Æfingasiða 1

- 4.89**
- a** 125°
 - b** 60°

4.90



- 4.91**
- a** 120° **b** 57°

4.92

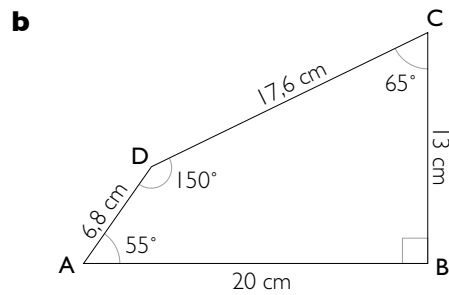
- A - 2 B - 3 C - 1 D - 5 E - 4

4.93

- a** 45°
- b** $\angle B = 65^\circ$ $\angle C = 115^\circ$ $\angle D = 65^\circ$

Æfingasiða 2

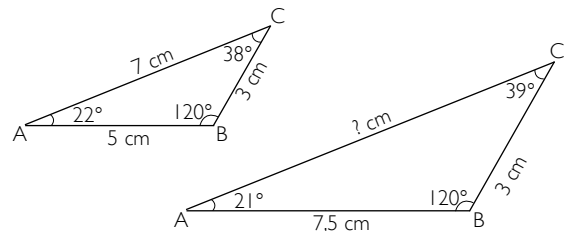
4.94



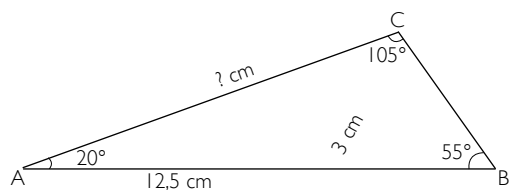
4.95

	AB	BC	AC	$\angle A$	$\angle B$	$\angle C$
Þríhyrningur 1	5 cm	3 cm	7 cm	20°	120°	40°
Þríhyrningur 2	7,5 cm	4,5 cm	10,5 cm	20°	120°	40°
Þríhyrningur 3	12,5 cm	7,5 cm	17,5 cm	22°	118°	40°

a



c



- d** Þríhyrningur 1 og þríhyrningur 2 eru einslaga.

4.96

B

Geturðu þetta?

4.97

$$\angle A = 90^\circ$$

$$\angle C = 70^\circ$$

$$\angle E = 50^\circ$$

$$\angle B = 140^\circ$$

$$\angle D = 70^\circ$$

4.98

a 60° og 120°

b $135^\circ, 45^\circ, 135^\circ, 45^\circ$

4.99

$$\angle ADB = 52^\circ$$

$$\angle C = 94^\circ$$

$$\angle BDC = 43^\circ$$

$$\angle DBC = 43^\circ$$