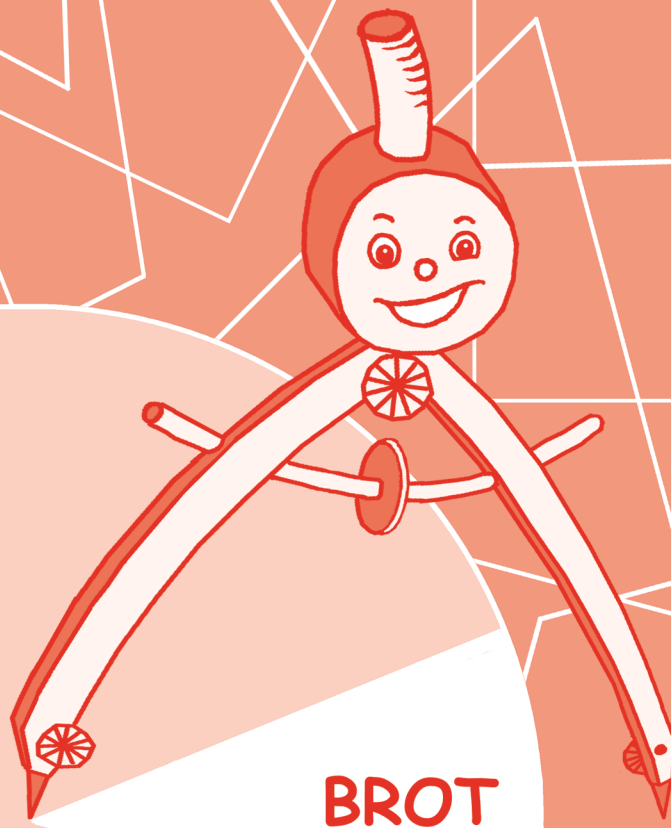


HRINGUR 1



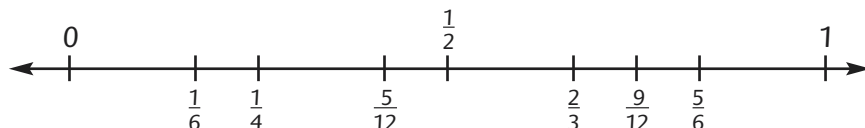
Lausnir
September 2005

Bls. 1

Brot

1 a) $\frac{1}{3} > \frac{1}{4}$ b) $\frac{2}{4} > \frac{2}{6}$ c) $\frac{6}{12} < \frac{2}{3}$ d) $\frac{2}{6} = \frac{1}{3}$

2



3 a) $\frac{3}{9} = \frac{1}{3} = \frac{2}{6} = \frac{4}{12} = \frac{5}{12} = \frac{6}{18}$

c) $\frac{8}{12} = \frac{2}{3} = \frac{4}{6} = \frac{6}{9} = \frac{8}{12} = \frac{10}{15} = \frac{12}{18}$

b) $\frac{6}{10} = \frac{3}{5} = \frac{9}{15}$

d) $\frac{10}{12} = \frac{5}{6}$

Fleiri brot koma til greina.

4 a) $\frac{5}{5} = 1$

c) $\frac{5}{8}$

e) $\frac{3}{7}$

b) $\frac{5}{7}$

d) $\frac{1}{5}$

f) $\frac{6}{12} = \frac{1}{2}$

5 a) $\frac{3}{8}, \frac{4}{9}, \frac{2}{7}$

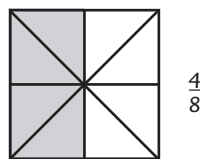
b) $\frac{5}{9}, \frac{4}{10}, \frac{5}{10}$

c) $\frac{4}{7}, \frac{3}{5}, \frac{6}{7}$

Fleiri brot koma til greina.

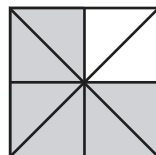
Bls. 2

6 a) Það þarf 4 áttundu hluta til að þekja $\frac{1}{2}$.



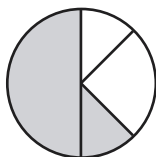
$\frac{4}{8}$

b) Það þarf 6 áttundu hluta til að þekja $\frac{3}{4}$.

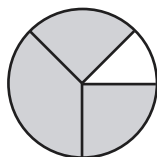


$\frac{6}{8}$

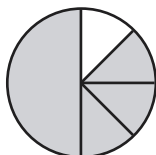
7 a) $\frac{2}{6}$



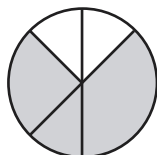
c) $\frac{5}{12}$



b) $\frac{1}{8}$



d) $\frac{2}{6}$



8 a) 30 kr. er $\frac{1}{2}$ af 60

b) 20 kr. er $\frac{1}{3}$ af 60

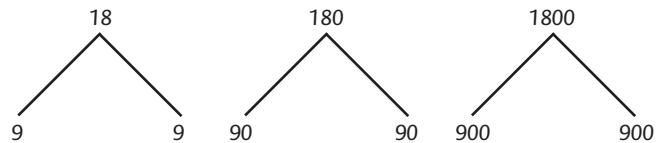
c) 15 kr. er $\frac{1}{4}$ af 60

d) 12 kr. er $\frac{1}{5}$ af 60

9 a) 9 90 900 c) 16 160 1600

b) 13 130 13000 d) 27 270 2700

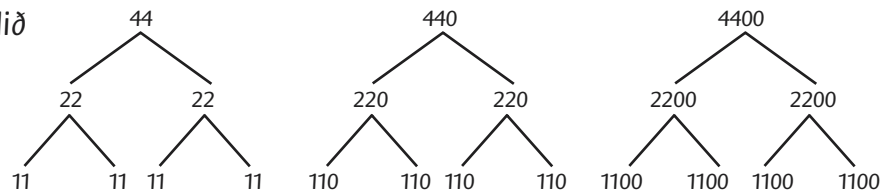
Dæmi um lausn í a) lið



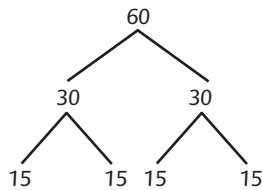
10 a) 11 110 1100 c) 14 140 1400

b) 18 180 1800 d) 23 230 2300

Dæmi um lausn í a) lið



11 15 mínútur.



Bls. 3

1 Hægt að velja einhver þessara brota.

a) $\frac{1}{7}, \frac{2}{7}, \frac{5}{7}, \frac{7}{9}, \frac{1}{2}, \frac{1}{8}, \frac{2}{8}, \frac{5}{8}, \frac{7}{8}, \frac{1}{5}, \frac{2}{5}, \frac{1}{9}, \frac{2}{9}, \frac{5}{9}, \frac{7}{9}, \frac{8}{9}$

b) $\frac{9}{8}, \frac{7}{2}, \frac{5}{2}, \frac{8}{2}, \frac{8}{5}, \frac{7}{5}, \frac{9}{5}, \frac{9}{8}, \frac{8}{7}, \frac{9}{7}$

c) $\frac{5}{5}, \frac{1}{2}, \frac{2}{2}, \frac{7}{7}, \frac{8}{8}, \frac{9}{9}$

d) $\frac{5}{2}, \frac{7}{2}, \frac{8}{2}, \frac{9}{2}, \frac{2}{1}, \frac{5}{1}, \frac{7}{1}, \frac{8}{1}, \frac{9}{1}$



2) $\frac{1}{5}, \frac{2}{6} = \frac{1}{3}, \frac{1}{2}, \frac{5}{7}, \frac{3}{4}, \frac{6}{6}, \frac{4}{3}$

3) a) Ingvar fær $\frac{2}{5}$ hluta $\frac{1}{5}$ af 500 kr. er 100 kr.

b) Ingvar fær 200 kr. og Harpa fær 300 kr.

$$2 \cdot 100 = 200$$

$$3 \cdot 100 = 300$$

4) a) 3 klst. = $\frac{3}{4}$ Öll vinnan er 4 klukkustundir = $\frac{4}{4}$

b) $\frac{1}{8}$

Saman vinna þau 1 klukkustund sem er $\frac{1}{4}$ verksins

Harpa og Ingvar vinna því $2 \cdot \frac{1}{8} = \frac{2}{8} = \frac{1}{4}$

c) 500 kr.

$$4000 : 8 = 500 \text{ kr.}$$

Bls. 4

Skíðaferð

1) a) $\frac{1}{3}$

b) 10 nemendur

2) a) 15 súpuskálar

b) 6 lítrar

c) 6150 kr.

8 nemendur af 24 eru með snjóbretti $\frac{8}{24} = \frac{1}{3}$

$\frac{1}{4}$ er með gönguskíði = $\frac{6}{24}$

$24 - 8$ snjóbretti - 6 gönguskíði = 10 svigskíði

4,5 lítrar = 45 dl 0,3 l = 3 dl 45 : 3 = 15

30 bollar \cdot 2 dl = 60 dl 60 dl = 6 lítrar

30 \cdot 120 = 3600 kr. fyrir kakó

15 \cdot 170 = 2550 kr. fyrir súpu samtals: 6150 kr.

3) a) 8

b) 18

c) 16

d) 12

e) 3

f) 24

Hægt að svara t.d.:

a) skipti 24 milli þriggja og fæ 8

b) $\frac{1}{4}$ af 24 er 6 og $3 \cdot 6 = 18$

c) $\frac{1}{3}$ af 24 er 8 og $2 \cdot 8 = 16$



Bls. 5

- 4 a) Á snúrunni eru 7 húfur 10 vettlingar 2 treflar
 $7 \cdot 3 = 21$ húfa $10 \cdot 3 = 30$ vettlingar $2 \cdot 3 = 6$ treflar
- b) 3 húfur 18 vettlingar 1 trefill
Alls eru 24 húfur 48 vettlingar 7 treflar
 $24 - 21 = 3$ húfur $48 - 30 = 18$ vettlingar $7 - 6 = 1$ trefill
- 5 a) 7 nemendur $10 : 2 = 5$ stúlkur og 2 drengir
b) $\frac{1}{4}$ hluti $\frac{6}{24} = \frac{1}{4}$
c) 11 nemendur $24 - 7 - 6 = 11$
- 6 a) 6 gista í Suðurkoti $\frac{3}{5}$ hluti $\frac{2}{5} + \frac{3}{5} = 1$
Stelpurnar eru 10 og $\frac{1}{5}$ af þeim eru 2 stelpur $3 \cdot 2 = 6$
b) 8 gista í Austurkoti $\frac{4}{7}$ hluti $\frac{3}{7} + \frac{4}{7} = 1$
Strákarnir eru alls 14 og $\frac{1}{7}$ af þeim eru tveir strákar $4 \cdot 2 = 8$
- 7 a) $\frac{3}{9}$ $\frac{4}{12}$ $\frac{1}{3}$
b) $\frac{2}{4}$ $\frac{4}{8}$

Bls. 6

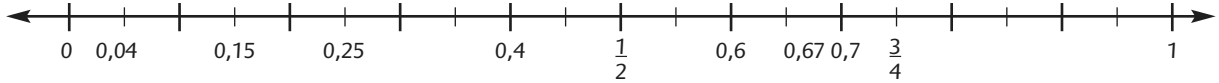
- 8 a) 60 farþegar $24 + 3 + 13 = 40$ sæti eru $\frac{2}{3}$ $\frac{1}{3} = 20$ og $\frac{3}{3} = 60$ sæti
b) 20 sæti $60 - 40 = 20$ sæti
c) 4 kennarar Sætin eru 60 $\frac{1}{5}$ af 60 = 12 $\frac{3}{5}$ af 60 = 36 nemendur
- 9 a) 112 km Ein leið er $122 : 2 = 56$ Á miðri leið þarf að snúa við $56 : 2 = 28$
 $56 + 28 + 28 = 112$ km
b) 84 km Leiðin er 112 km $\frac{1}{4}$ af 112 = 28 km $\frac{3}{4}$ af 112 = 84 km
c) 28 km
- 10 a) 30 farþegar 40 farþegar eru 100% 30 farþegar eru 75%
b) 4 farþegar 4 farþegar eru 10%
c) 6 farþegar $40 - 34 = 6$



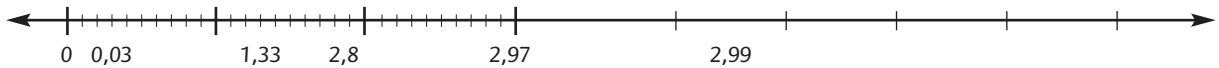
Bls. 7

Tugabrot

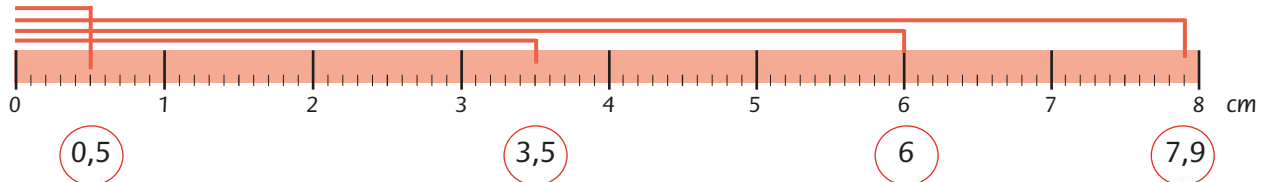
- 1 $0,04$ $0,15$ $0,25$ $0,4$ $\frac{1}{2}$ $0,6$ $0,67$ $0,7$ $\frac{3}{4}$



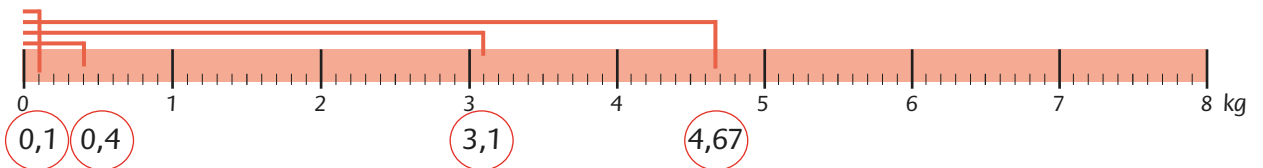
- 2 $0,03$ $1,33$ $2,8$ $2,97$ $2,99$



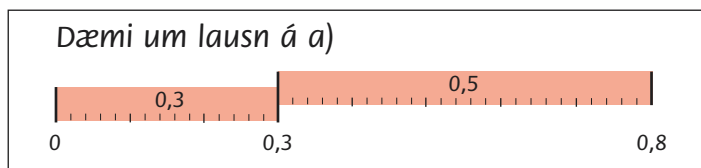
- 3 a) 3,5 cm b) 6 cm c) 7,9 cm d) 0,5 cm



- 4 a) 0,4 kg b) 3,1 kg c) 4,67 kg d) 0,1 kg



- 5 a) 0,8 b) 1,6 c) 0,55 d) 3,1



- 6 a) 0 b) 3 c) 3 d) 1 e) 2

Bls. 8

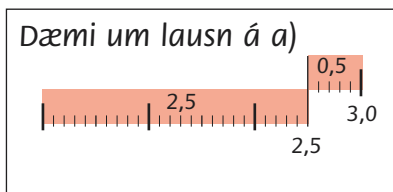
- 7 a) 0,2 er gildi \bigcirc gildi \triangle er 0,4
 b) 0 er gildi \star gildi \square er 1
 c) 0,6 er gildi \triangle gildi \diamond er 0,8
 d) 0,75 er gildi \oplus gildi \diamond er 0,25



8 a) $4,55 \text{ m}$ $5 \text{ m} = 500 \text{ cm}$ $0,2 \text{ m} = 200 \text{ cm}$
 $500 - 200 - 250 = 455 \text{ cm}$ $4,55 \text{ m}$
 b) 450 cm $200 \text{ cm} + 250 \text{ cm} = 450 \text{ cm}$

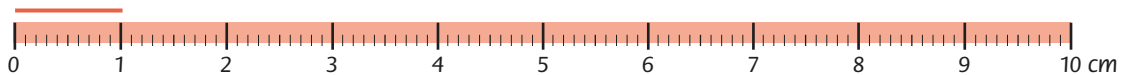
9 a) 900 g $5000 \text{ g} = 5 \text{ kg}$ $5,0 - 4,1 = 900 \text{ g}$ b) $9,5 \text{ kg}$
 $0,9 \text{ kg} \cdot 6 = 5,4 \text{ kg}$ $5,4 + 4,1 = 9,5 \text{ kg}$

10 a) 3 c) 3 e) 5
 b) 1,5 d) 9,9 f) 5

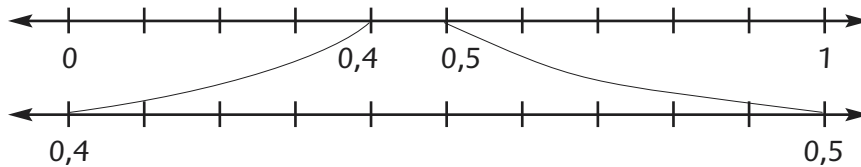


Bls. 9

11 10



12 10



13 a) $x = 1,4$ c) $y = 1,5$
 b) $m = 2,8$ d) $k = 2,5$

Ath. Í 1. prentun bókar hafa merkingar á liðum c) og d) ruglast

14 a) 3
 b) 3,5
 c) 0,5
 d) 0,2
 e) 1,4
 f) 5,5



- 15 $5 \frac{1}{2}$ pönnuköku því $4 \cdot 5 = 20$ og ef skipta á 2 pönnukökum milli 4 barna fær hver $\frac{1}{2}$
- 16 a) Kristín er hæst hún er 164 cm en Guðbjörg er $1 \frac{1}{2} = 150$ cm og Dröfn 160 cm
 b) 14 cm $164 - 150 = 14$
- 17 $0,25 = 25\%$ $5\% = \frac{1}{20} = 0,05$ $\frac{3}{4} = 75\% = 0,75$
 $0,1 = \frac{1}{10} = 10\%$ Engin önnur stærð eins og $\frac{3}{10}$

Bls. 10

Útsala

1	Peysa	1250 kr.
	Buxur	6000 kr.
	Jakki	3500 kr.
	Skyrta	500 kr.
	Bolur	1350 kr.
	Pils	2250 kr.

50% af 2500 eru 1250 = 1250 kr.
 25% af 8000 eru 2000 = 6000 kr.
 50% af 7000 eru 3500 = 3500 kr.
 75% af 2000 eru 1500 = 500 kr.
 10% af 1500 eru 150 = 1350 kr.
 25% af 3000 eru 750 = 2250 kr.

2 a) 19250 kr.

Peysur	$3 \cdot 1250 = 3750$ kr.
Buxur	$2 \cdot 6000 = 12000$ kr.
Jakki	$1 \cdot 3500 = 3500$ kr.

b) 14000 kr.

Jakkar án afsláttar	$2 \cdot 7000 = 14000$ kr.	
með afslætti	$2 \cdot 3500 = 7000$ kr.	mism. 7000 kr.
Buxur án afsláttar	$1 \cdot 8000 = 8000$ kr.	
með afslætti	$1 \cdot 6000 = 6000$ kr.	mism. 2000 kr.
Peysur án afsláttar	$4 \cdot 2500 = 10.000$ kr.	
með afslætti	$4 \cdot 1250 = 5000$ kr.	mism. 5000 kr.

Pétur sparar $7000 + 2000 + 5000 = 14000$ kr.



3 a) Kári

Kári eyðir 19 250 kr. sem er $\frac{1}{10}$ af heildarlaunum
19 250 kr. $\cdot 10 = 192\,500$ kr. í mánaðarlaun
Pétur eyðir 18 000 kr. sem er $\frac{1}{10}$ af heildarlaunum
18 000 kr. $\cdot 9 = 162\,000$ kr. mánaðarlaun

b) 173 250 kr. $192\,500 - 19\,250 = 173\,250$ kr.

c) 109 550 kr. $162\,000 - 52\,450 = 109\,550$ kr.

4 a) 7,8 kg

$$4\frac{3}{5} + 3\frac{1}{5} = 7\frac{4}{5} \text{ kg} = 7,8 \text{ kg}$$

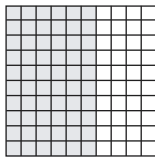
b) 1,4 kg

$$4\frac{3}{5} - 3\frac{1}{5} = 1\frac{2}{5} \text{ kg} = 1,4 \text{ kg}$$

Bls. 11

Sitt af hverju tagi

1 a)



b) 0,6

c) Mismunandi svör, t.d. ég veit að $\frac{1}{5}$ eru 20 reitir, því eru $\frac{3}{5}$ 60 reitir.

d) Mismunandi svör, t.d. í mínum bekk eru strákar $\frac{3}{5}$ hluti af bekknum.

Samtals erum við 20 í bekknum. $\frac{3}{5}$ af 20 eru 12.

Í bekknum eru því 12 strákar og 8 stelpur.

2 a) $\frac{1}{12}$ $\frac{1}{8}$ $\frac{1}{4}$ $\frac{1}{2}$ $\frac{3}{5}$

b) 0,04 $\frac{2}{10}$ $\frac{4}{10}$ $\frac{1}{2}$ 0,6

c) 0,11 0,23 $\frac{1}{4}$ $\frac{2}{4}$ $\frac{3}{5}$

3 a) 12 hnetur

$$\frac{1}{2} (\text{Axel}) + \frac{1}{3} (\text{pabbi}) + 6 (\text{mamma}) = x$$

$$\frac{3}{6} + \frac{2}{6} + \frac{1}{6} = x$$

$$6 \text{ hnetur eru } \frac{1}{6} \quad 12 \text{ hnetur eru } \frac{2}{6}$$

b) 36 hnetur

$$\frac{1}{6} = 6 \text{ hnetur} \quad \frac{6}{6} = 36 \text{ hnetur}$$



4 a) $k = \frac{2}{5}$

$$\frac{2}{5} + \frac{2}{5} = \frac{4}{5}$$

d) $z = 1\frac{8}{4} = 2$

$$2 - 1 = 1$$

b) $x = \frac{3}{12}$

$$\frac{3}{12} + \frac{6}{12} = \frac{9}{12}$$

e) $s = 1\frac{1}{2}$

$$2 - \frac{1}{2} = 1\frac{1}{2}$$

svona ætti dæmið að vera

b) $x + \frac{6}{12} = \frac{9}{12}$

Ath. Í 1. prentun bókar villa í b-lið þar stendur $\frac{9}{11}$ en ætti að vera $\frac{9}{12}$

c) $P = \frac{1}{2}$

$$\frac{1}{2} + \frac{1}{2} = 1$$

f) $r = \frac{1}{4}$

$$1 - \frac{3}{4} = \frac{1}{4}$$

5 a) 500 25% er $\frac{1}{4}$

$\frac{1}{4}$ af 2000 er 500

c) 1500

b) 200 10% er $\frac{1}{10}$

$\frac{1}{10}$ af 2000 er 200

d) 140

Bls. 12

6 a) Signý

$$1,69 \text{ m} - 0,54 \text{ m} = 1,10 \text{ m}$$

b) Haukur

$$48 \text{ cm} \times 3 = 144 \text{ cm}$$

$$1,44 \text{ m} = 144 \text{ cm}$$

c) 125 cm

$$1,75 \text{ m} - 0,50 \text{ m} = 1,25 \text{ m}$$

$$1,25 \text{ m} = 125 \text{ cm}$$

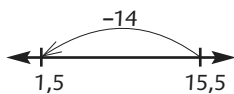
d) Davíð

$$1,91 \text{ m} - 1,36 \text{ m} = 0,55 \text{ m}$$

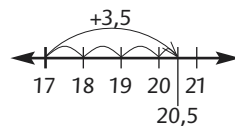
e) 1,43 m

$$1,44 + 1,36 + 1,40 + 1,52 = 5,72 : 4 = 1,43 \text{ m}$$

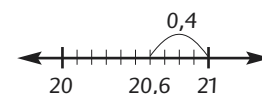
7 a) $r = 1,5$



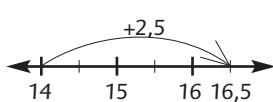
c) $s = 3,5$



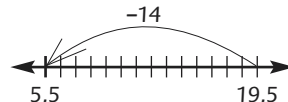
e) $t = 0,4$



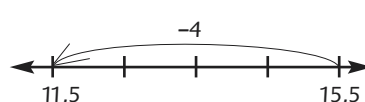
b) $p = 2,5$



d) $n = 5,5$



f) $m = 15,5$



8 $\frac{2}{4}$ $\frac{1}{2}$ $\frac{3}{6}$ $\frac{8}{16}$

9 $\frac{3}{4}$ $\frac{6}{8}$ $\frac{12}{8}$ $\frac{3}{4}$

