

- Antwoordenboeken terug
- Papier in papierbak 
- Wacht tot de  bel gaat

Wat heb jij geleerd deze les?



Bedankt!

Tot de volgende les...

Nú naar de WC

(tot het einde van de les niet meer)

Jas aan de kapstok



Staat je telefoon STIL?

Blijf zitten tot 15:00 uur!

Kijk thuis in Teams voor hulp-plaatjes...



Tafels van vermenigvuldiging ×

*Tips: Uit je hoofd leren: oefenen, oefenen, oefenen!
Laat iemand je overhoren...*

“4 maal 3”
= “4 keer 3”

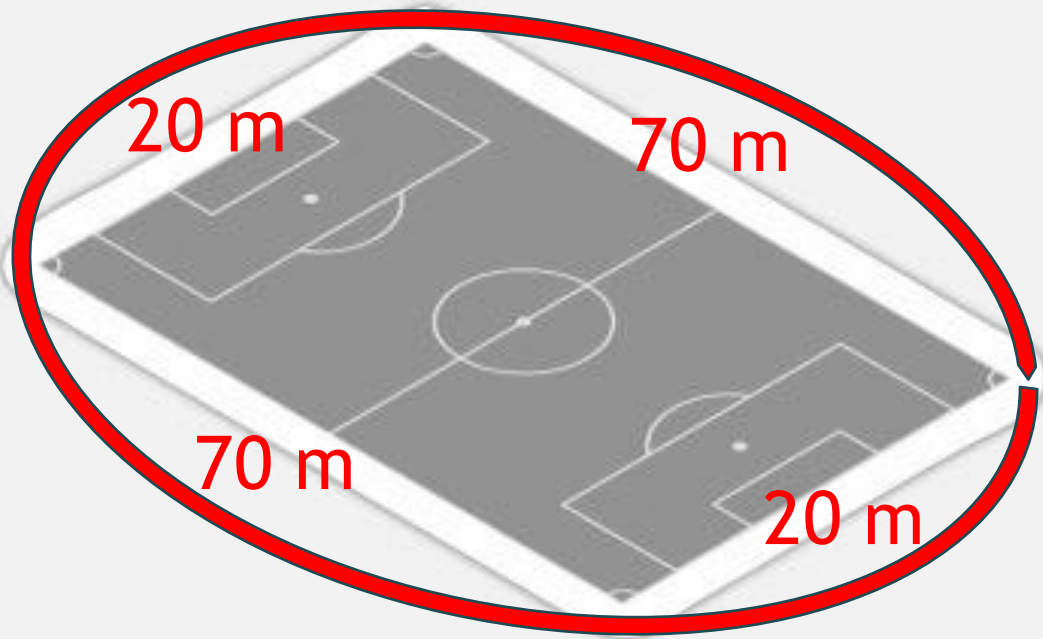
2	3	4	5	6	7	8	9
1×2= 2	1×3= 3	1×4= 4	1×5= 5	1×6= 6	1×7= 7	1×8= 8	1×9= 9
2×2= 4	2×3= 6	2×4= 8	2×5= 10	2×6= 12	2×7= 14	2×8= 16	2×9= 18
3×2= 6	3×3= 9	3×4= 12	3×5= 15	3×6= 18	3×7= 21	3×8= 24	3×9= 27
4×2= 8	4×3= 12	4×4= 16	4×5= 20	4×6= 24	4×7= 28	4×8= 32	4×9= 36
5×2= 10	5×3= 15	5×4= 20	5×5= 25	5×6= 30	5×7= 35	5×8= 40	5×9= 45
6×2= 12	6×3= 18	6×4= 24	6×5= 30	6×6= 36	6×7= 42	6×8= 48	6×9= 54
7×2= 14	7×3= 21	7×4= 28	7×5= 35	7×6= 42	7×7= 49	7×8= 56	7×9= 63
8×2= 16	8×3= 24	8×4= 32	8×5= 40	8×6= 48	8×7= 56	8×8= 64	8×9= 72
9×2= 18	9×3= 27	9×4= 36	9×5= 45	9×6= 54	9×7= 63	9×8= 72	9×9= 81
10×2= 20	10×3= 30	10×4= 40	10×5= 50	10×6= 60	10×7= 70	10×8= 80	10×9= 90

×	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

Omtrek

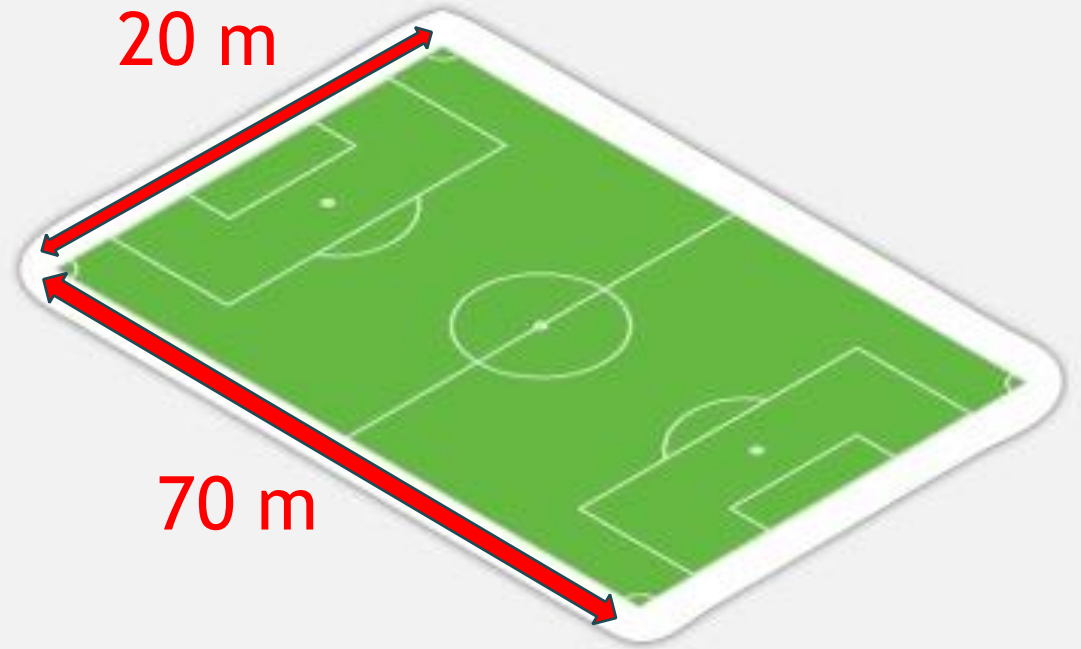
en

Oppervlakte



$$70\text{m} + 20\text{m} + 70\text{m} + 20\text{m} = \mathbf{180\ m}$$

$$2 \times 70\text{m} + 2 \times 20 = 140 + 40 = \mathbf{180\ m}$$

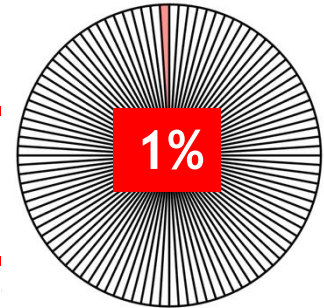


$$70\text{m} \times 20\text{m} = \mathbf{1.400\ m^2}$$

Procent %

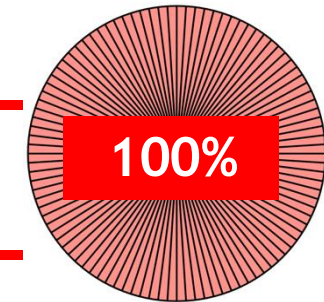
“cent” is “honderd”; (1€ is 100 cent; 1 meter = 100 centimeter)

$$1\% \text{ van } \dots = \frac{1}{100}^e \text{ deel van } \dots = \dots \times 0,01$$

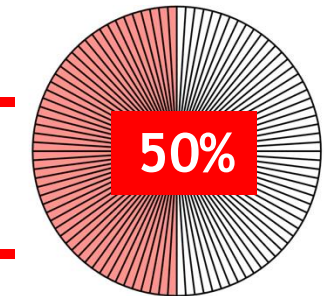


$$100\% \text{ van } \dots = \frac{100}{100}^e \text{ deel van } \dots = \dots \times 1,00$$

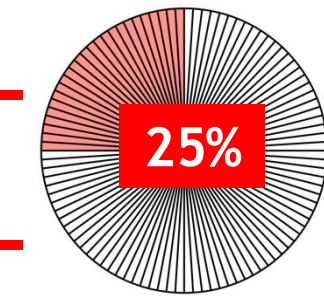
“Alles”

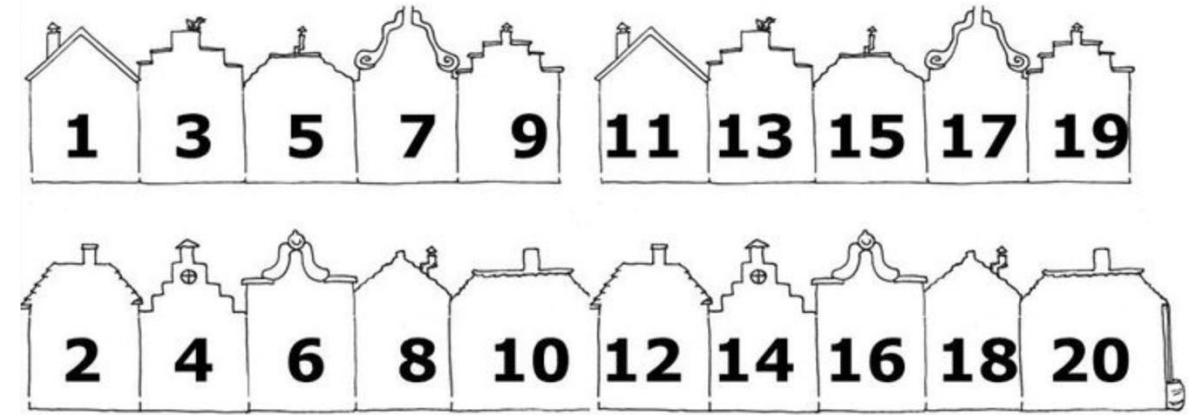


$$50\% \text{ van } \dots = \frac{50}{100}^e \text{ deel van } \dots = \dots \times 0,50$$



$$25\% \text{ van } \dots = \frac{25}{100}^e \text{ deel van } \dots = \dots \times 0,25$$





ONeven:

(English: **odd**)

Voorbeelden:

...1
...3
...5
...7
...9

- 1933
- 1881
- 999
- 12345
- 119
- 90767

Even:

(English: **even**)

Voorbeelden:

...2
...4
...6
...8
...0

- 12
- 188
- 990
- 123456
- 45054
- 0

Metrieke stelsel

×1 000 000 000

×1 000 000

G...

Giga

M...

Mega... (bijv.: MegaByte)

× 1000

× 100

× 10

k...

kilo...

h...

hecto...

da...

deca...

: 1

× 1

: 10

× 0,1

d...

deci...

: 100

× 0,01

c...

centi...

: 1000

× 0,001

m...

milli...

...l = ...liter

...g = ...gram

...m = ...meter

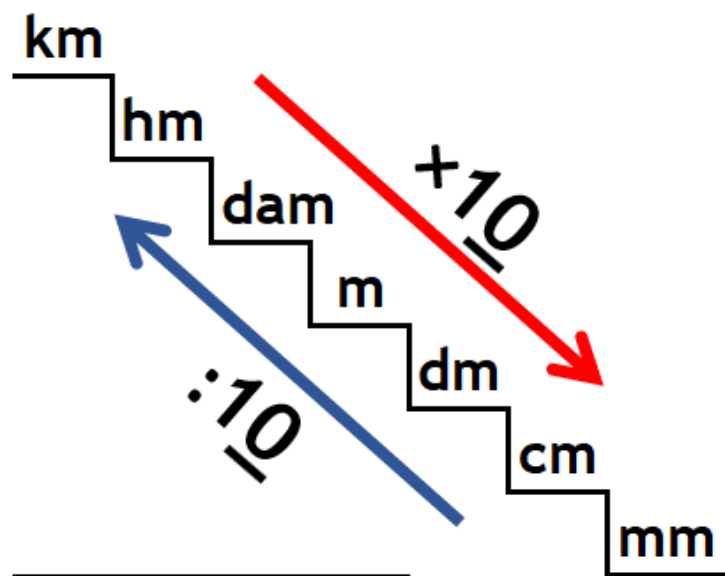
...m² = **vierkante** ...meter

...m³ = **kubieke** ...meter

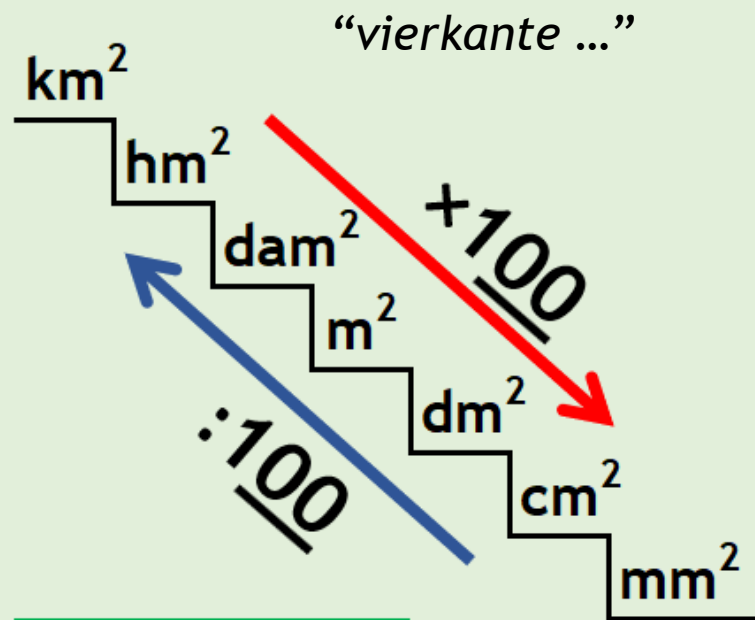
Let op!

M... ≠ m... ≠ m

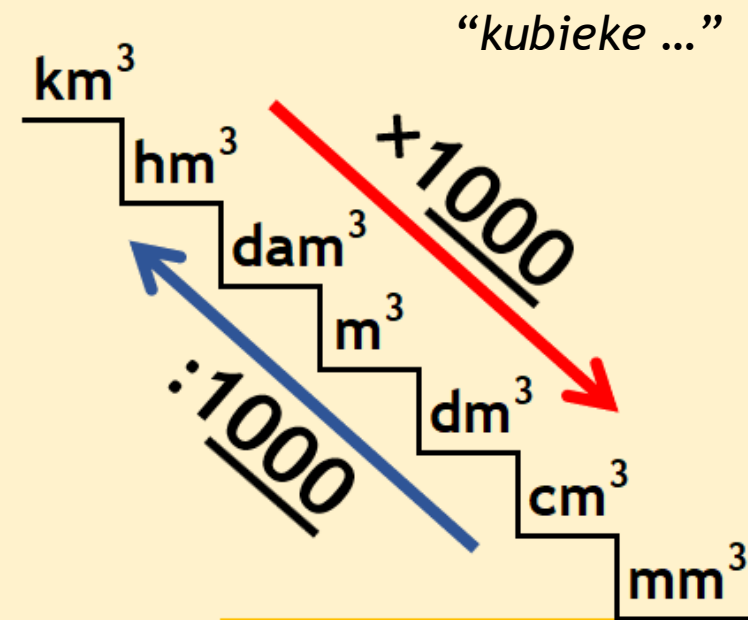
Mega.... milli.... meter



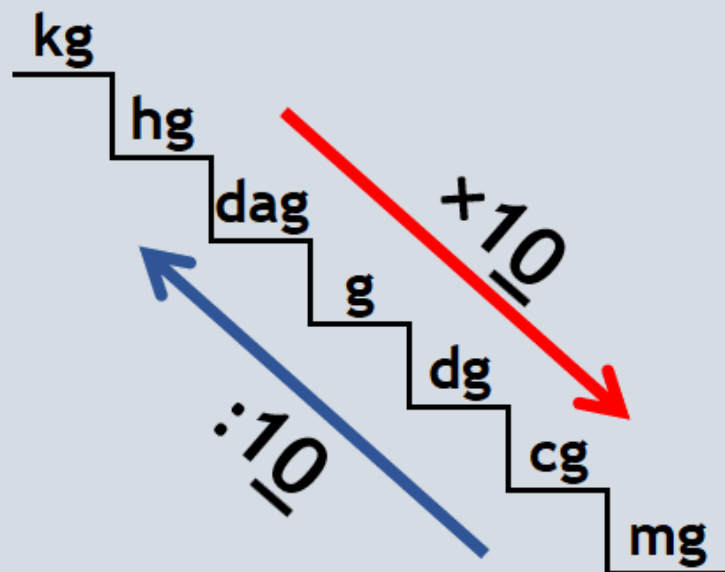
Lengte, afstand



Oppervlakte

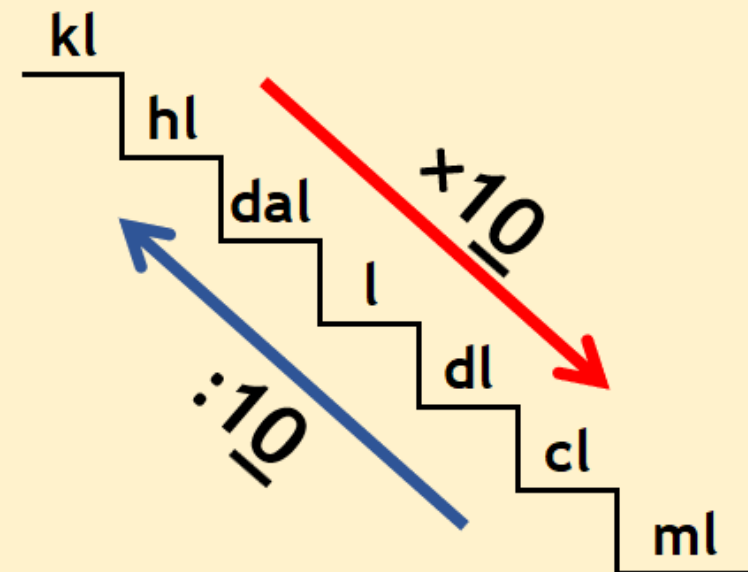


Inhoud, volume

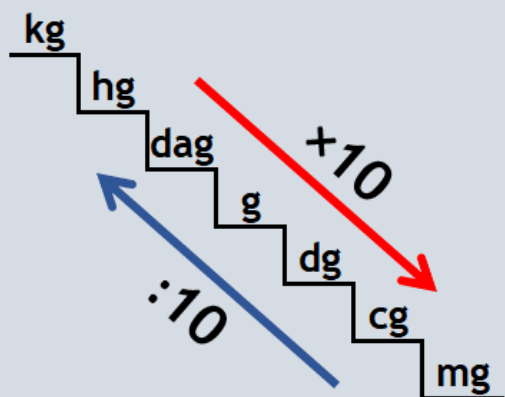


Gewicht

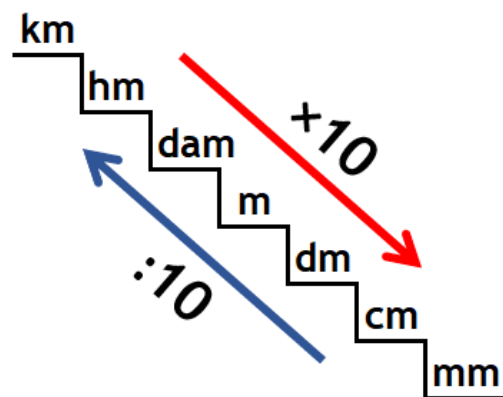
<u>veel/groot:</u>	kilo	k...	1000
	hecto	h...	100
	deca	da...	10
			1
<u>weinig/klein:</u>	deci	d...	0,1
	centi	c...	0,01
	milli	m...	0,001



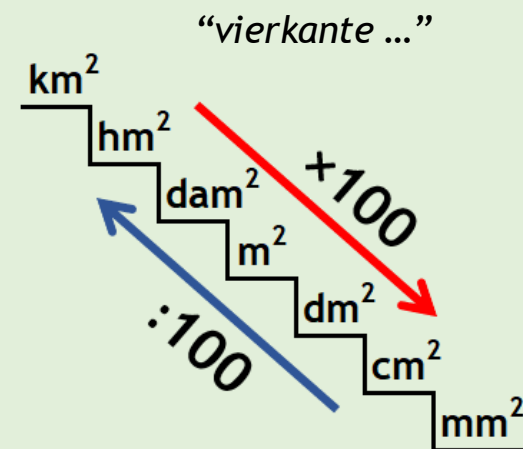
1 l. = 1 dm³



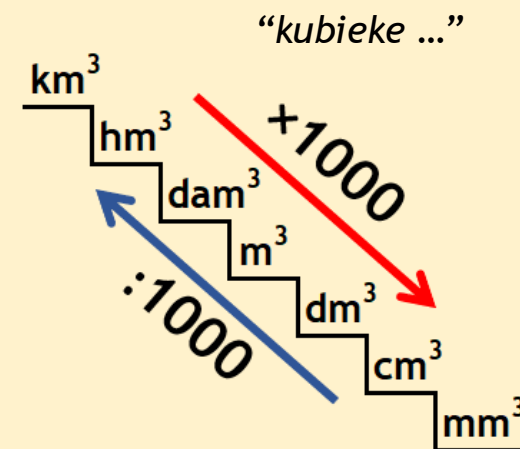
Gewicht



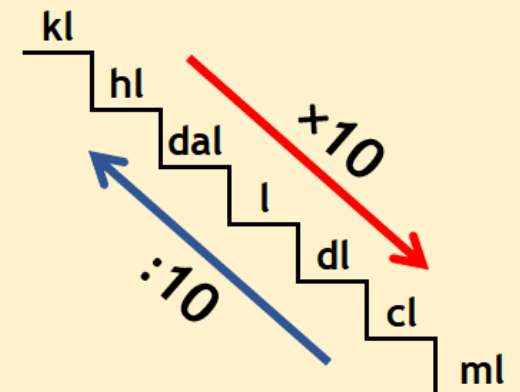
Lengte, afstand



Oppervlakte



Inhoud, volume



1 l. = 1 dm³

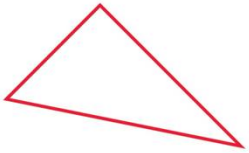
- a 1 m = 100 cm
- b 1 cm = 0,01 m
- c 1 l = 1000 ml
- d 1 hg = 0,1 kg
- e 1 hg = 100 g
- f 1 m³ = 1000 dm³ (=1000 l)
- g 1 m² = 0,0001 hm²

k... = kilo = **×1000**
 h... = hecto = **×100**
 da... = deca = **×10**
 = **×1**
 d... = deci = **×0,1** (= :10)
 c... = centi = **×0,01** (= :100)
 m... = milli = **×0,001** (= :1000)

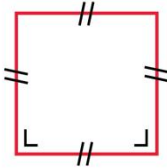
Vlakke figuren (2D)

Ruimte-figuren (3D)

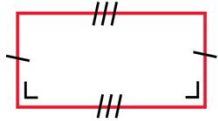
driehoek



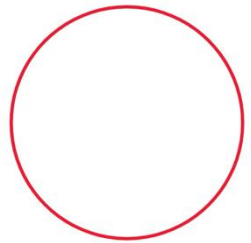
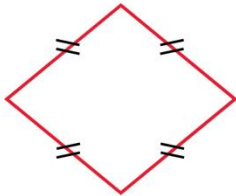
vierkant



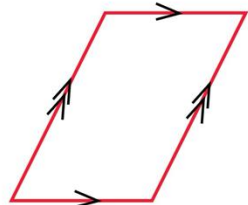
rechthoek



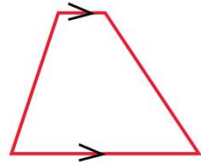
ruit



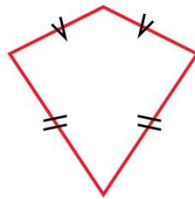
cirkel



parallellogram

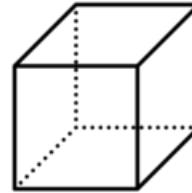


trapezium



vlieger

kubus



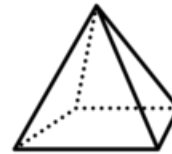
balk



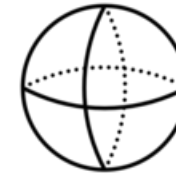
cilinder



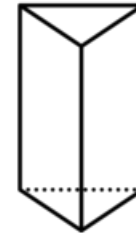
kegel



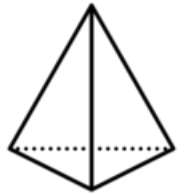
piramide



bol



prisma



piramide

Kenmerken (2D):

(aantal) **hoekpunten**
(aantal) (lengte) (parallele) **zijden**
(lengte) **diagonalen**
symmetrie-as(sen)

(Extra) Kenmerken (3D):

(aantal) (vorm) **vlakken**
(aantal) **ribben**

0123,456
0000,135
1000,000 +

1123,591

1273
45

6365
50920

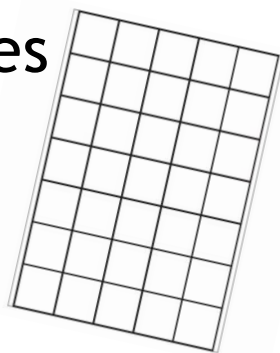
57295

3
2
5

, of . ?

$$\begin{array}{l} 3,45 \\ 3000,45 \\ 7000 \\ 56000000 \\ 0,0017 \end{array} = \begin{array}{l} 3.000,45 \\ 7.000 \\ 56.000.000 \\ 0,0017 \end{array}$$

Tip: schrijf in de ruitjes



getal: 479,805

cijfers: 4 7 9 8 0 5

eenheid: km (cm² l. °C €)

$$\begin{array}{rcl} \underline{479,805} & = & \\ 4 & \textcolor{red}{4} \times 100 & \\ 7 & \textcolor{red}{7} \times 10 & \\ 9 & \textcolor{red}{9} \times 1 & \\ ,8 & \textcolor{red}{8} \times 0,1 & \\ 0 & \textcolor{red}{0} \times 0,01 & \\ 5 & \textcolor{red}{5} \times 0,001 & + \\ \hline 479,805 & & \end{array}$$

honderd-tallen ...
tien-tallen ...
eenheden ...
tienden ...
honderdsten ...
duizendsten ...

479, 805 km
helen *decimalen* (3)

$\approx 479,81$ afgerond op 2 decimalen

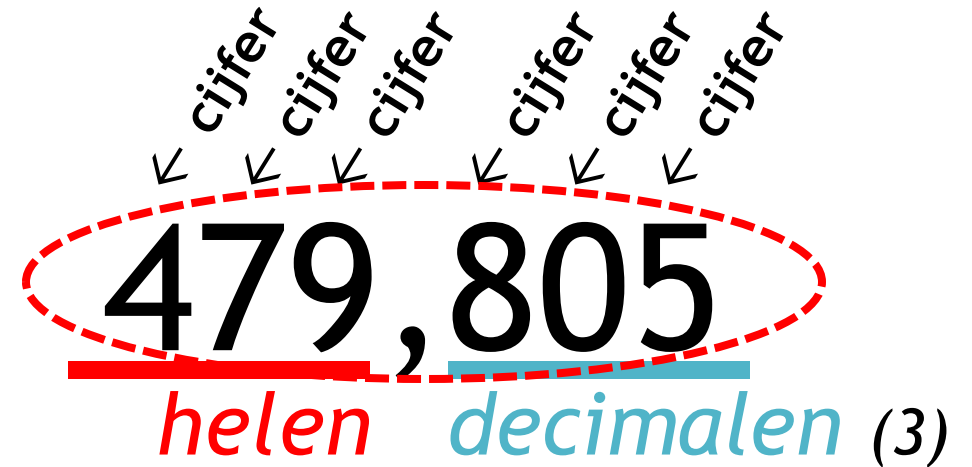
$\approx 479,8$ afgerond op 1 decimaal

≈ 480 afgerond op helen (0 dec.)

000**480**,000

Cijfers en getallen

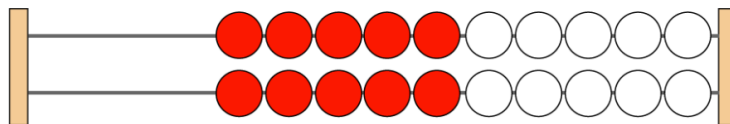
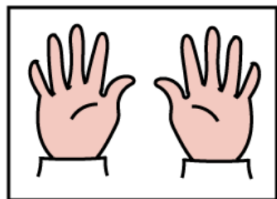
- cijfer: 1 2 3 4 5 6 7 8 9 0
- getal: 55 123 17 -3 479,805
- komma-getal: 3,59 0,01 12,5
- decimale punt: 3.000.000 (*makkelijker lezen*)
- breuk: $\frac{3}{4} = \frac{75}{100} (= 0,75)$
- min-teken: -3 (5 - 8 = -3)


cijfer cijfer cijfer cijfer cijfer cijfer
479,805
helen decimalen (3)

10 cijfers: 1 2 3 4 5 6 7 8 9 0 → alle getallen

26 letters: abcdefghijklmnopqrstuvwxyz → alle woorden

10



+ plus

$$2 + 3 = 5$$

- min

$$5 - 3 = 2$$

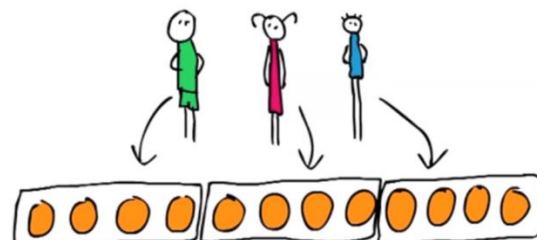
× maal keer

$$6 \times 3 = 18$$

$$6 \times 3 = 3 + 3 + 3 + 3 + 3 + 3 = 18$$

: delen door

$$12 : 3 = 4$$



$$12 : 3 = 4$$

$$2 + 3 = 5$$

$$2 + \dots = 5$$

$$5 - 2 = 3$$

$$6 \times 3 = 18$$

$$6 \times \dots = 18$$

$$18 : 6 = 3$$

Let op!

16 “zestien”

60 “zestig”

0 nul

1 een

2 twee

3 drie

4 vier

5 vijf

6 zes

7 zeven

8 acht

9 negen

10 tien

11 elf

12 twaalf

13 dertien

14 veertien

15 vijftien

16 zestien

17 zeventien

18 achttien

19 negentien

20 twintig

30 dertig

40 veertig

50 vijftig

60 zestig

70 zeventig

80 tachtig

90 negentig

100 honderd

200 tweehonderd

1000 duizend

1.000

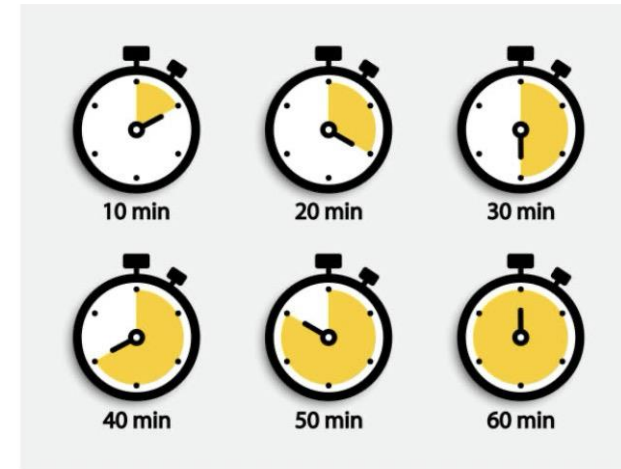
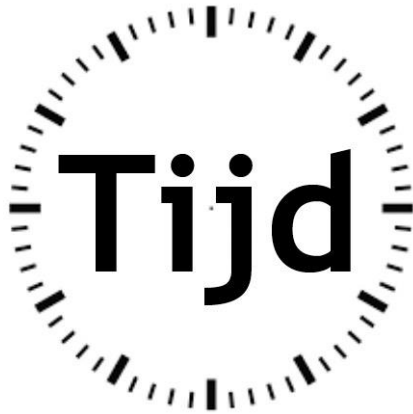
$\frac{1}{2}$ half = 0,5

$\frac{1}{4}$ kwart = 0,25

, komma: € 3,75

. Punt:

1.000.000,05 €



1 minuut

= 60 seconden

1 uur

= 60 minuten (= $60 \times 60 = 3.600$ seconden)

1 uur

= 4 kwartieren

1 kwartier "kwart uur"

= 15 minuten (= $60 : 4$)

1 dag (ook: etmaal)

= 24 uren (ochtend - middag - avond - nacht)



Datum

Nederland:

volgorde: dag, maand, jaar

- 31 dec 2024
- 31-12-2024
- dinsdag 31 december 2024

!!! (English: maand-dag) 12/31

Tijd(stip)

bijvoorbeeld:

- 08:45 uur - begin school-les
- 15:00 uur - einde school-les

!!! English: 08:45 AM - 3:00 PM

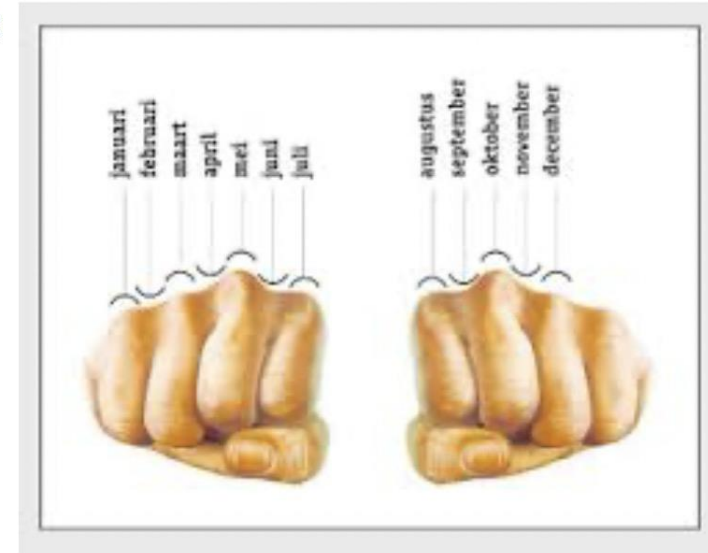


7 **dagen** van de week:

- maandag
- dinsdag
- woensdag
- donderdag
- vrijdag
- **zaterdag** (weekeinde)
- **zondag** (weekeinde)

12 **maanden** van het jaar:

1. januari (31 dagen)
2. februari (28 of 29)
3. maart (31)
4. april (30)
5. mei (31)
6. juni (30)
7. juli (31)
8. augustus (31)
9. september (30)
10. oktober (31)
11. november (30)
12. december (31)



(Kalender)Maand = 28 (29), 30 of 31 dagen

Kwartaal (“kwart jaar”) = 3 maanden

Trimester = 4 maanden

Semester = 6 maanden (*half jaar*)

Jaar = 365 (366) dagen; “*schrikkeljaar*”

Jaar = 52 weken

Jaar = 12 maanden

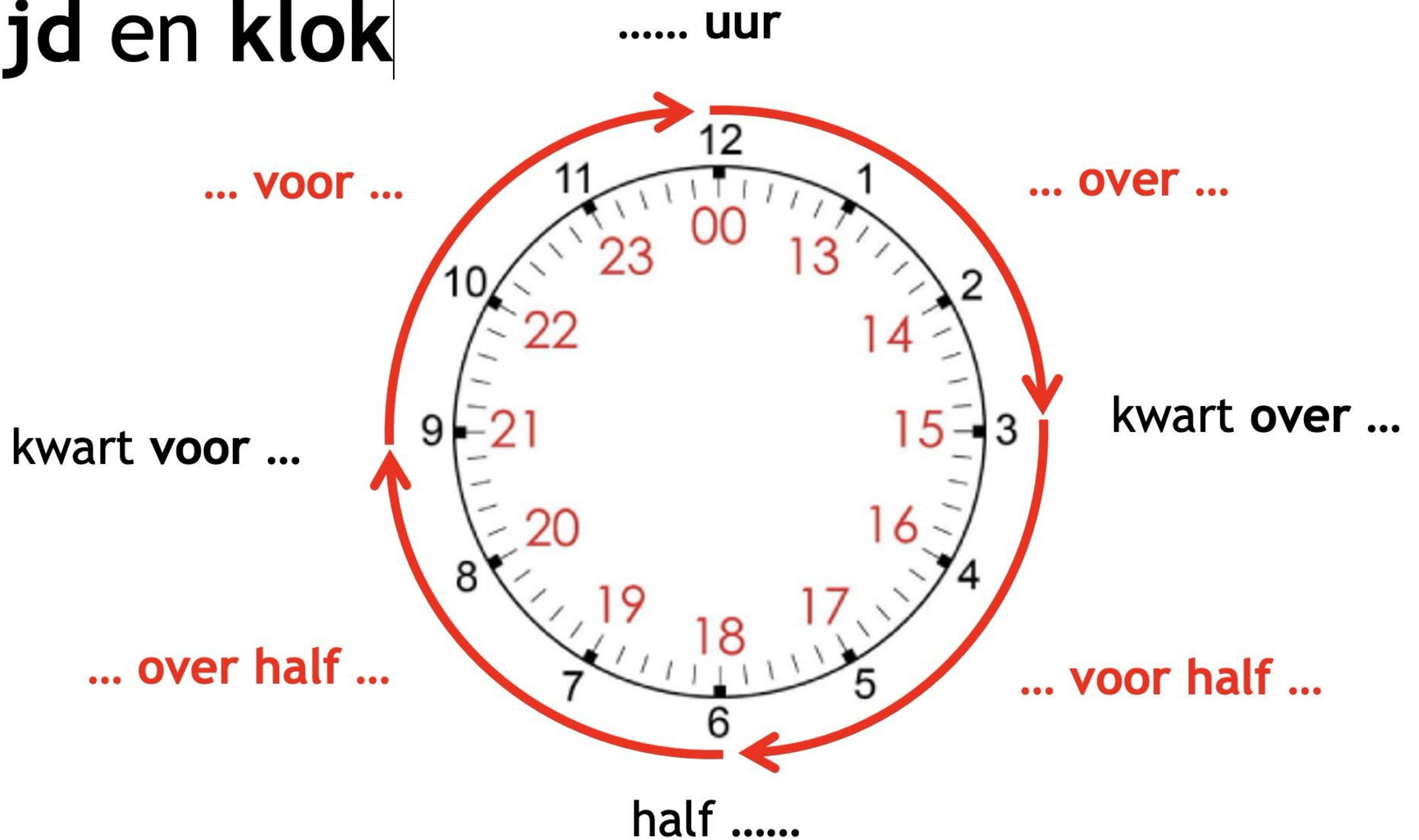
Decennium = 10 jaren

Eeuw = 100 jaren

Millennium = 1000 jaren



Tijd en klok



Woorden als getallen:

1 ons = 100 gram

1 pond = 500 gram = $\frac{1}{2}$ kilo

Let op! 1 ton = 1.000 kilo
1 ton = 100.000 euro

Oud: 1 dozijn = 12



12 dozijn = 1 gros

$$12 \times 12 = 144$$



Rekenwoorden

optellen

en plus erbij meer
toename, toenemen, neemt toe
extra toeslag met inclusief
5 is de som van 2 en 3
12 is de som van 3, 4 en 5

+

som

×

product

vermenigvuldigen (met)

keer
maal

6 is het product van 2 en 3
24 is het product van 2, 3 en 4

aftrekken

min minus eraf minder
afname, afnemen, neemt af
korting zonder exclusief
3 is het verschil van 5 en 2

verschil

—

quotiënt

•
•

delen (door)

gedeeld door
/ ÷

4 is het quotiënt van 8 en 2
($\frac{1}{4}$ is het quotiënt van 2 en 8)

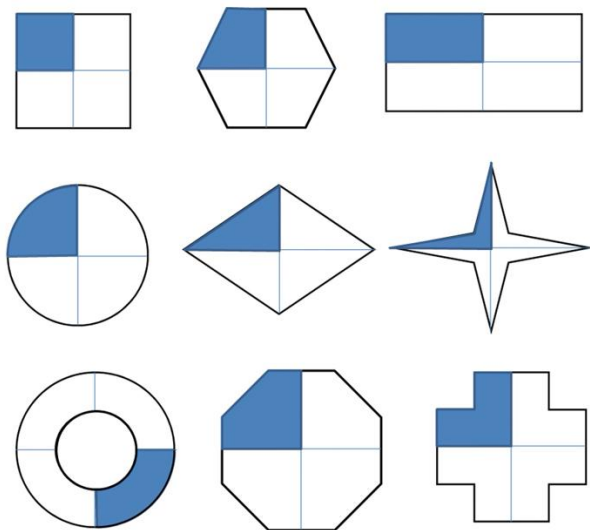
$\frac{1}{4}$

breuk

1:4

(staart)deling

1 van 4
deel



25%
%-getal

0,25
kommagetel

4 $\overline{) 1,000}$ 0,25

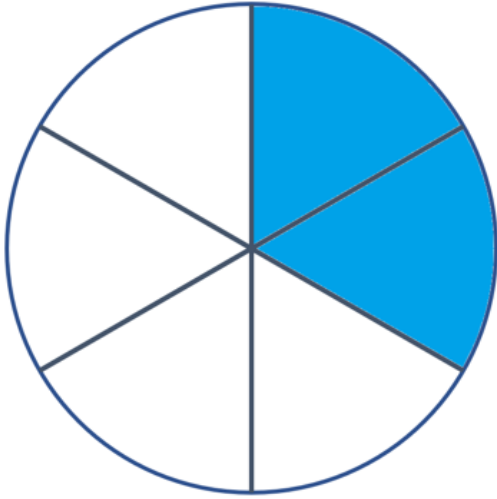
$\underline{- 8}$

20

$\underline{- 20}$

0

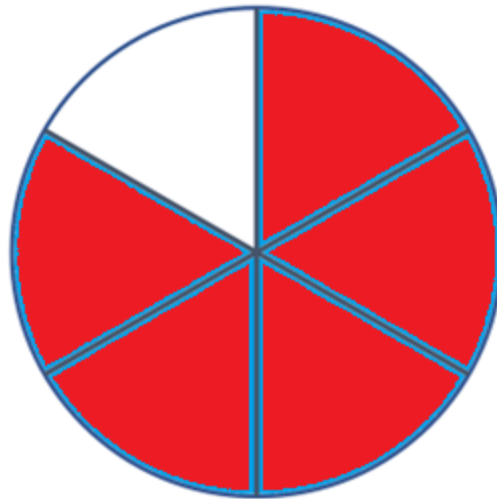
A red dotted arrow points from the first '0' in the decimal part of the dividend (1,000) to the first '0' in the quotient (0,25).



2 van de 6 zijn **blauw**:

= twee-zesde deel

$$= \frac{2}{6} \quad \left(= \frac{1}{3} \right)$$



5 van de 6 zijn **rood**:

= vijf-zesde deel

$$= \frac{5}{6}$$

deel = breuk

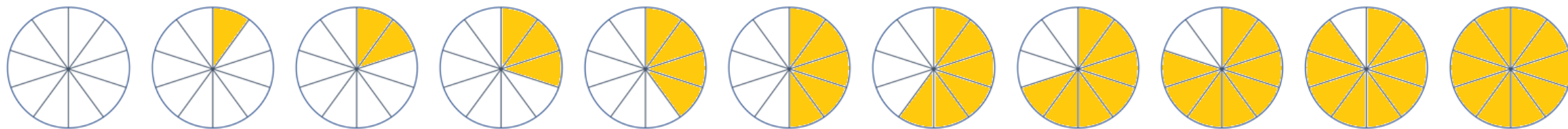
$$\frac{2}{6} \quad \begin{array}{l} \leftarrow \text{"teller"} \\ \leftarrow \text{"noemer"} \end{array}$$

$$3 \frac{2}{6}$$



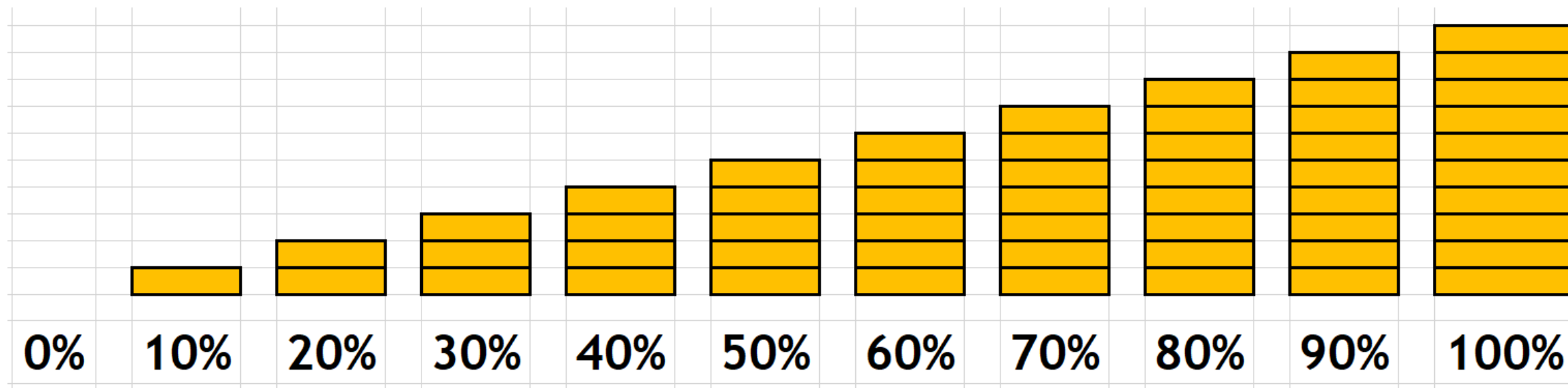
"helen"



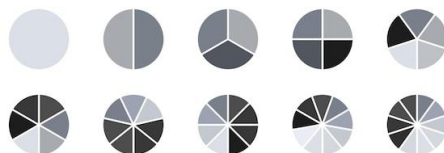


$$0 = \frac{0}{10} \quad \frac{1}{10} \quad \frac{2}{10} \quad \frac{3}{10} \quad \frac{4}{10} \quad \frac{5}{10} \quad \frac{6}{10} \quad \frac{7}{10} \quad \frac{8}{10} \quad \frac{9}{10} \quad \frac{10}{10} = 1$$

0 0,1 0,2 0,3 0,4 0,5 0,6 0,7 0,8 0,9 1

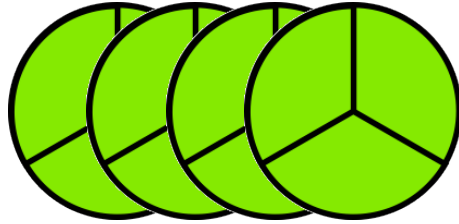


0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%



“Breuken” en “Helen”

$$4\frac{2}{3} = \frac{\dots}{3} =$$



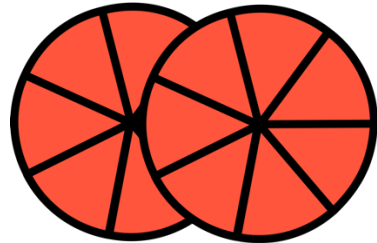
$$4 \times 3 = 12$$



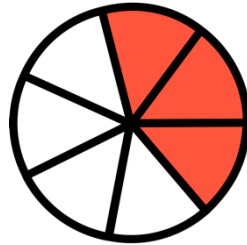
2

$$= \frac{12 + 2}{3} = \frac{14}{3}$$

$$2\frac{3}{7} = \frac{\dots}{7} =$$

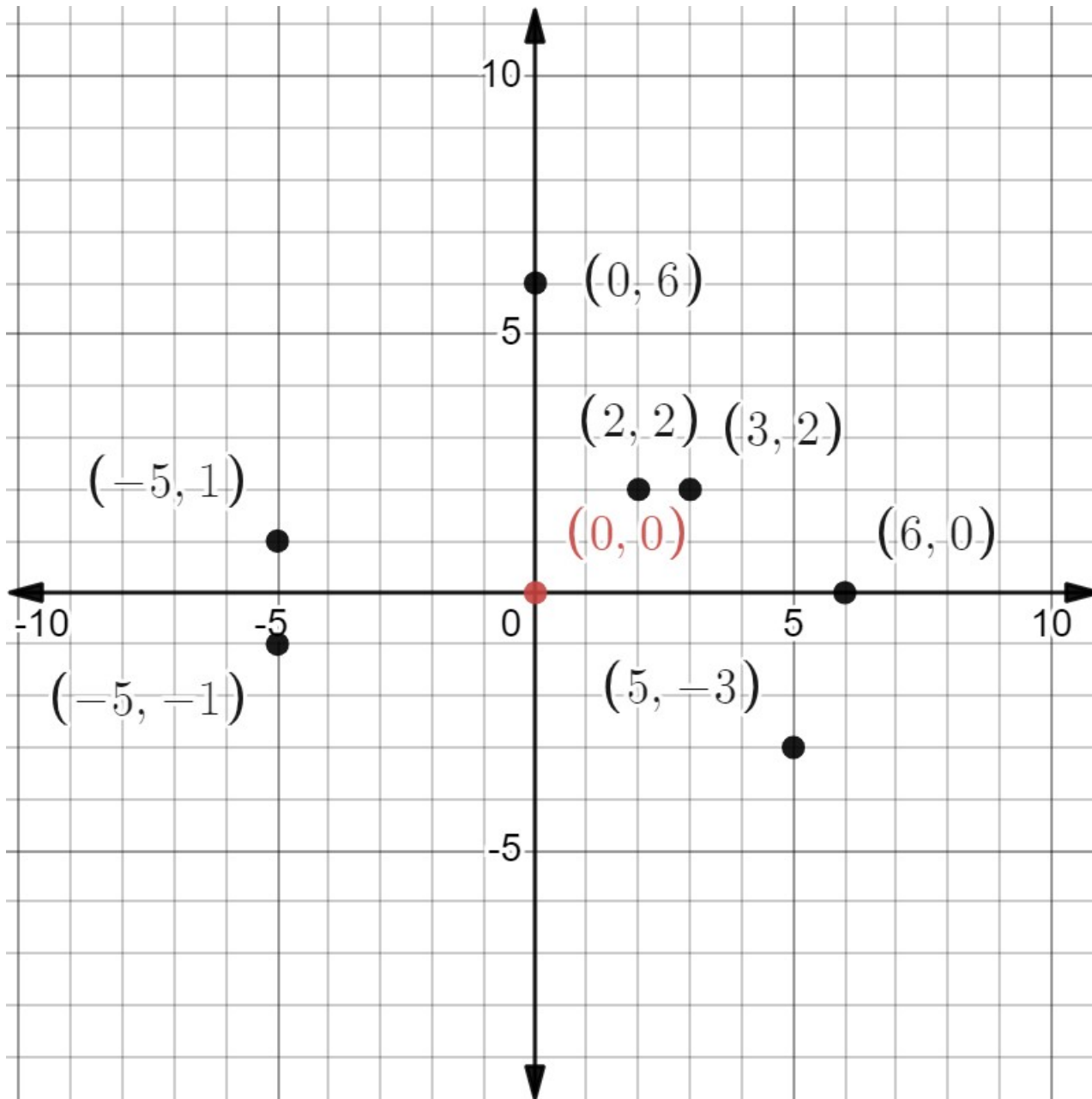


$$2 \times 7 = 14$$



3

$$= \frac{14 + 3}{7} = \frac{17}{7}$$



Assenstelsel

Coördinaten: (x , y)

(0 , 0) is de oorsprong

↔ x-as horizontaal

↕ y-as verticaal

(Vergeet de **haakjes** niet)

Bij kommagetallen:

(4,5 ; 5) niet: ~~(4,5 , 5)~~

ReWi = Rekenen/Wiskunde

Docent: meneer Joep (ROOJ)

Lokaal 15

Vaste plaats in het lokaal

Jas aan de kapstok beneden

Telefoon (**stil!**) in telefoontas

Ga vóór de les naar de WC

Oud papier in papierbak

Elke les meenemen naar school: boek, gum en potlood

Blijf zitten tot de bel (10:00, 11:35, 13:25, 15:00 uur)

Stoel aanschuiven

Even

...2 ...4 ...6 ...8 ...0

:2 ☒

Odd

...1 ...3 ...5 ...7 ...9

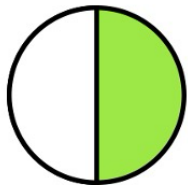
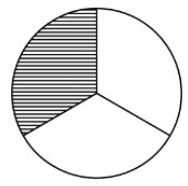
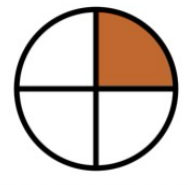
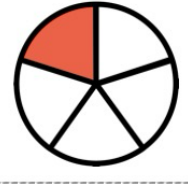
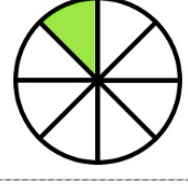
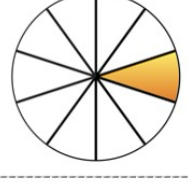
~~:2~~

Even of Odd ?

12 191 84 783 16 0 8841 93 47

51 17 365378 461 ~~0,58~~ 1363 ~~$\frac{3}{4}$~~ 565

:2 ☒ $\frac{14}{20} = \frac{7}{10}$ $\frac{18}{24} = \frac{9}{12}$ $\frac{40}{62} = \frac{20}{31}$

	1			2	3	4	5	8	10
	$= \frac{1}{2}$	1:2= 0,50	50%	$\frac{2}{2} = 1$					
	$= \frac{1}{3}$	1:3= 0,33...	33,3...%	$\frac{2}{3}$	$\frac{3}{3} = 1$				
	$= \frac{1}{4}$	1:4= 0,25	25%	$\frac{2}{4}$	$\frac{3}{4}$	$\frac{4}{4} = 1$			
	$= \frac{1}{5}$	1:5= 0,20	20%	$\frac{2}{5}$	$\frac{3}{5}$	$\frac{4}{5}$	$\frac{5}{5} = 1$		
	$= \frac{1}{8}$	1:8= 0,125	12,5%	$\frac{2}{8}$	$\frac{3}{8}$	$\frac{4}{8}$	$\frac{5}{8}$	$\frac{8}{8} = 1$	
	$= \frac{1}{10}$	1:10= 0,10	10%	$\frac{2}{10}$	$\frac{3}{10}$	$\frac{4}{10}$	$\frac{5}{10}$	$\frac{8}{10}$	$\frac{10}{10} = 1$

Procenten %

$$600\% = \times 6$$

$$200\% = \times 2$$

$$140\% = \times 1,4$$

$$100\% = \text{Alles} \times 1$$

$$50\% = \frac{50}{100} = \frac{1}{2} = \times 0,50 : 2$$

$$25\% = \frac{25}{100} = \frac{1}{4} = \times 0,25 : 4$$

$$20\% = \frac{20}{100} = \frac{1}{5} = \times 0,20 : 5$$

$$12\frac{1}{2}\% = \frac{125}{1000} = \frac{1}{8} = \times 0,125 : 8$$

$$10\% = \frac{10}{100} = \frac{1}{10} = \times 0,10 : 10$$

$$5\% = \frac{5}{100} = \frac{1}{20} = \times 0,05 : 20$$

$$2\% = \frac{2}{100} = \frac{1}{50} = \times 0,02 : 50$$

$$1\% = \frac{1}{100} = \times 0,01$$

$$6\% = \frac{6}{100} = \times 0,06$$

$$6\% \text{ van } 200 = 200 \times 0,06 = 12$$

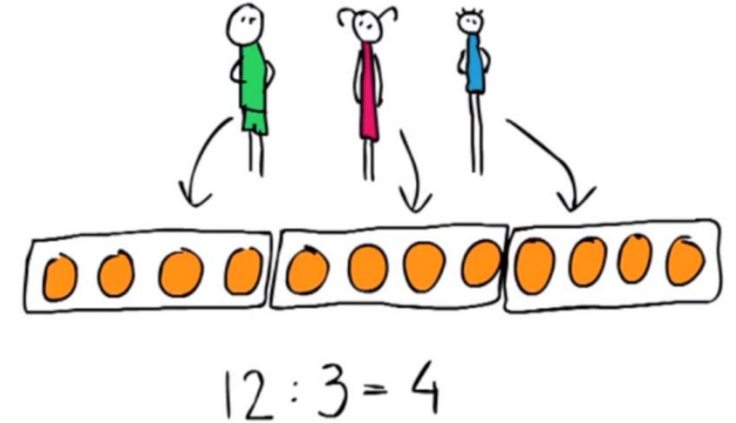
$$= 0,06 \times 200 = 12$$

$$100\% \text{ van } 4,9 = \text{alles van } 4,9 = 4,9$$

Delen : ÷

$$12 : 3 = 4 \quad \leftrightarrow \quad 4 \times 3 = 12$$

$$12 : 4 = 3 \quad \leftrightarrow \quad 3 \times 4 = 12$$



$$12 : 3 = 4$$

“12 *delen door* 3 is 4”

Hoe vaak past 3 in 12 ?
Precies 4 keer

$$40 : 5 = \dots\dots\dots$$

40 delen door 5 =



Hoe vaak
past 5 in 40?

40 snoepjes, 5 personen
Hoeveel krijgt iedereen?

- $1 \times 5 = 5$
- $2 \times 5 = 10$
- $3 \times 5 = 15$
- $4 \times 5 = 20$
- $5 \times 5 = 25$
- $6 \times 5 = 30$
- $7 \times 5 = 35$
- $8 \times 5 = 40 \leftarrow$**
- $9 \times 5 = 45$
- $10 \times 5 = 50$

- $1 \times 5 = 5$
- $2 \times 5 = 10$
- $3 \times 5 = 15$
- $4 \times 5 = 20$
- $5 \times 5 = 25$
- $6 \times 5 = 30$
- $7 \times 5 = 35$
- $8 \times 5 = 40 \leftarrow$**
- $9 \times 5 = 45$
- $10 \times 5 = 50$

$$42 : 5 = 8 \text{ (rest 2)}$$

$$= 8 + \frac{2}{5} = 8\frac{2}{5}$$

$$= 8 + \frac{4}{10} = 8\frac{4}{10}$$

$$= 8,4$$

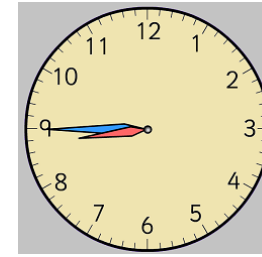
(Staart)deling:

$$\begin{array}{r} 5 \overline{) 42} \quad 8 \text{ rest } 2 \\ \underline{-40} \\ 2 \end{array}$$

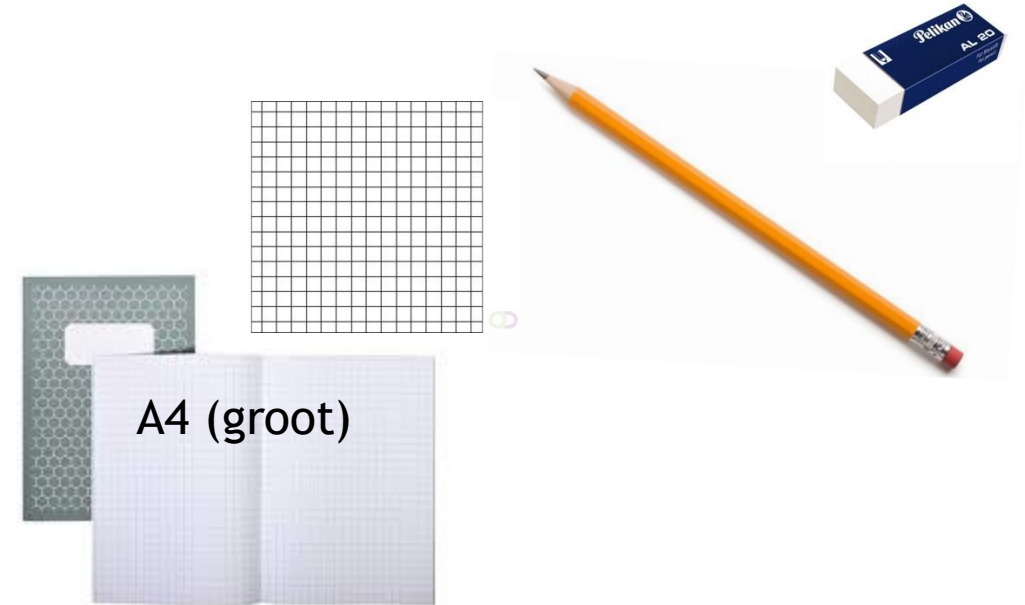
A blue arrow points from the circled remainder '2' in the division to the circled '2' in 'rest 2'.

ReWi = Rekenen/wiskunde:

- kom op tijd in de klas
- vaste plaats
- **NIET:** telefoon, jas, eten
- PAK: je boek, schrift, potlood, gum
- maak (moeilijke) sommen; nooit “klaar”
- schrijf **DUIDELIJK** 1 2 3 4 5 6 7 8 9 0
- blijf zitten tot de bel gaat
- **Tijd?** papier in papierbak, stoel aanschuiven



Les 1: 8:45 - 10:00 uur
Les 2: 10:20 - 11:35 uur
Les 3: 12:10 - 13:25 uur
Les 4: 13:45 - 15:00 uur



%	:	$\times$	$\times$
100%	:1	$\times 1$	$\times 1$
75%	$:\frac{4}{3}$	$\times \frac{3}{4}$	$\times 0,75$
50%	:2	$\times \frac{1}{2}$	$\times 0,5$
$33\frac{10}{3}\%$	:3	$\times \frac{1}{3}$	$\times 0,33\dots$
25%	:4	$\times \frac{1}{4}$	$\times 0,25$
20%	:5	$\times \frac{1}{5}$	$\times 0,2$
$12\frac{10}{2}\%$	:8	$\times \frac{1}{8}$	$\times 0,125$
10%	:10	$\times \frac{1}{10}$	$\times 0,1$
5%	:20	$\times \frac{1}{20}$	$\times 0,05$
1%	:100	$\times \frac{1}{100}$	$\times 0,01$

“procent” = “per 100”

	...	...	...	...	...
%		100		1	

$$25\% \text{ van } 60 = 60 : 4 = \underline{15}$$

$$5\% \text{ van } 16 = 16 : 20 = \underline{0,8}$$

$$50\% \text{ van } 38 = 38 : 2 = \underline{19}$$

$$33\frac{10}{3}\% \text{ van } 15 = 15 : 3 = \underline{5}$$

$$100\% \text{ van } 62 = 62 : 1 = \underline{62}$$

$$1\% \text{ van } 200 = 200 : 100 = \underline{2}$$

$$17\% \text{ van } 200 = 200 : 100 \times 17 = \underline{34}$$

Komma-getal = breuk

Komma-getal	Breuk(en)
0,5 =	$\frac{1}{2}$ $\frac{2}{4}$ $\frac{3}{6}$ $\frac{5}{10}$ $\frac{7}{14}$
0,1 =	$\frac{1}{10}$
15,6 =	$15\frac{6}{10}$ $15\frac{3}{5}$
1,0 1 =	$\frac{1}{1}$ $\frac{2}{2}$ $\frac{12}{12}$
15,0 15 =	$\frac{15}{1}$ $\frac{30}{2}$
0,017 =	$\frac{17}{1000}$
0,50 =	$\frac{50}{100} = \frac{5}{10} = \frac{1}{2}$

Oefeningen:

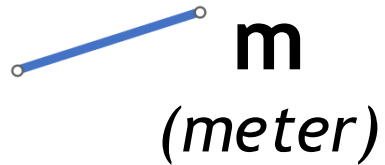
Schrijf als breuk:

- a) 6,32 =
- b) 100,01 =
- c) 0,30 =
- d) 11 =
- e) 0,04 =
- f) 12,34 =
- g) 0,999 =
- h) 8,01 =

Schrijf als komma-getal:

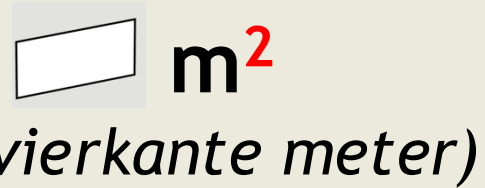
- $\frac{1}{4} =$
- $\frac{2}{5} = \frac{\dots}{10} =$
- $\frac{66}{100} =$
- $18\frac{31}{100} =$
- $\frac{51}{10} =$

Lengte, afstand



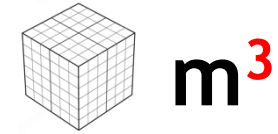
:10 ↑ ↓ ×10	km	kilo...	1000
	hm	hecto...	100
	dam	deca...	10
	m		1
	dm	deci...	0,1
	cm	centi...	0,01
	mm	milli...	0,001

Oppervlak(te)



:100 ↑ ↓ ×100	km ²
	hm ²
	dam ²
	m ²
	dm ²
	cm ²
	mm ²

Inhoud, volume



(kubieke meter; 1000 liter)



:1000 ↑ ↓ ×1000	km ³	
	hm ³	
	dam ³	hl
	m ³	dal
	1 dm ³	1 l
	cm ³	dl
	mm ³	cl
		ml

+ optellen

$$\begin{aligned} 2 + 3 &= \\ 3 + 2 &= \end{aligned} \mathbf{5}$$

(vermenigvuldigen)

× keer, maal

$$\begin{aligned} 2 \times 3 &= \\ 3 \times 2 &= \end{aligned} \mathbf{6}$$

$$\begin{aligned} 123 \times 45 &= \\ 45 \times 123 & \end{aligned}$$

$$\begin{array}{r} 123 \quad 45 \\ \underline{45 \times} \quad \underline{123 \times} \end{array}$$

– aftrekken

$$\begin{aligned} 12 - 3 &= \mathbf{9} \\ 3 - 12 &= \mathbf{-9} \end{aligned}$$

$$\begin{array}{r} 12 \\ 3 - \\ \hline 9 \end{array}$$

$$\begin{array}{r} 3 \\ 12 - \\ \hline -9 \end{array}$$

: delen door

$$\begin{aligned} 12 : 3 &= \mathbf{4} \\ 3 : 12 &= \mathbf{\frac{1}{4}} = 0,25 \end{aligned}$$

		Reken-bewerking	Voorbeeld	Resultaat
+	<i>“plus”</i>	Optellen	$6 + 2 = 8$	8 is de <u>som</u>
-	<i>“min”</i>	Aftrekken	$6 - 2 = 4$	4 is het <u>verschil</u>
×	<i>“maal” of “keer”</i>	Vermenigvuldigen	$6 \times 2 = 12$	12 is het <u>product</u>
:	<i>“delen door”</i>	Delen	$6 : 2 = 3$	3 is het <u>quotiënt</u>

Afronden $\approx$

Getal korter maken, met minder cijfers schrijven

Een “decimaal” is een cijfer achter de komma

(Het getal 12,3456 heeft 4 decimalen)

12,3456 $\approx$ 12,346 afgerond op 3 decimalen

12,3456 $\approx$ 12,35 afgerond op 2 decimalen

12,3456 $\approx$ 12,3 afgerond op 1 decimaal

12,3456 $\approx$ 12 afgerond op “helen” (0 decimalen)

12,3456 $\approx$ 10 afgerond 10-tallen

$$12,34\textcolor{red}{5}6 \approx 12,\textcolor{blue}{35}$$

Bijv.: afronden op 2 decimalen: zó schrijven dat er 2 decimalen blijven staan.

Dus: kijk naar de 3^e decimaal

Hoog? +1 bij de 2 decimaal

Laag? 2^e decimaal blijft (verandert niet)

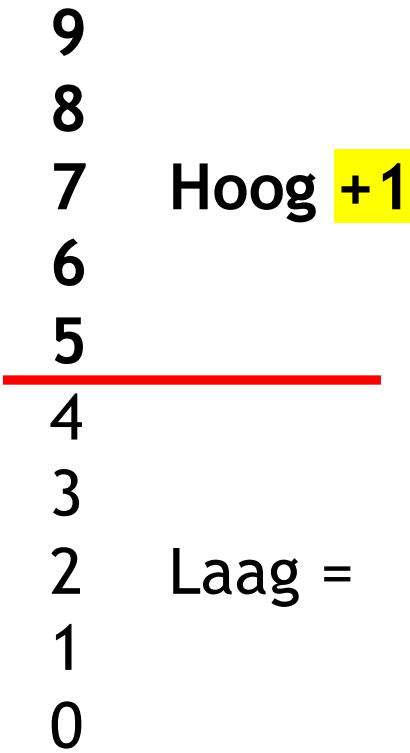


Afronden doe je 1 maal, aan het eind van de opgave

Afronden ≈

Getal korter maken, met minder cijfers schrijven
Afronden op decimalen; een decimaal is een cijfer NA de komma

	Afgerond op...→	2 decimalen	1 dec.	0 dec. (=helen)
a	69,345	≈ 69,35	≈ 69,3	≈ 69
b	129,95430	≈ 129,95	≈ 130,0	≈ 130
c	100,027	≈ 100,03	≈ 100,0	≈ 100
d	100,049	≈ 100,05	≈ 100,0	≈ 100
e	17,009	≈ 17,01	≈ 17,0	≈ 17
f	0,05599	≈ 0,06	≈ 0,1	≈ 0
g	99,654	≈ 99,65	≈ 99,7	≈ 100



Veelvouden, delers en priemgetallen

Veelvouden van **7:** 7, 14, 21, 28, ...

Veelvouden van **10:** 10, 20, 30, 40, ...

BREUK: $1\frac{2}{3} = \text{helen} \frac{\text{teller}}{\text{noemer}}$

Delers van **7:** 1, 7 **Priemgetal**

Delers van **10:** 1, 2, 5, 10

Delers van **24:** 1, 2, 3, 4, 6, 8, 12, 24

Breuken met **dezelfde deler**
(in teller én noemer) simpeler

$$\frac{14}{35} = \frac{2}{5}$$

Priemgetallen:

2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, ...

Breuken met een Priemgetal kunnen niet simpeler

Getallen en (tel)woorden

0 nul	100	honderd	1.000	duizend
1 één	107	honderd(en)zeven	15.000	vijftienduizend
2 twee	700	zevenhonderd	15.012	vijftienduizend(en)twalf
10 tien	719	zevenhonderdnegentien	100.000	honderduizend
11 elf	1.100	elfhonderd; of duizendéénhonderd	1.000.000	éénmiljoen

0,10	één tiende	6,1	zes (en) één tiende
0,40	vier tiende(n)	12,4	twalf (en) vier tiende(n)
0,40	veertighonderste(n)		
0,41	éénenveertighonderdsten		

0,01	één honderste	Rangtelwoorden	1 ^e eerste
4,009	vier (en) negen duizendsten		2 ^e tweede
6,000.5	zes (en) vijf tienduizendsten		3 ^e derde
10,000.08	tien (en) acht honderdduizendsten		4 ^e vierde

Makkelijker te lezen: 1000123,567007 = 1.000.123,567.007

Breuken:

$\frac{3}{8}$	drie acht <u>ste</u>
$1\frac{3}{8}$	één drie acht <u>ste</u>
$\frac{6}{7}$	zes zevende

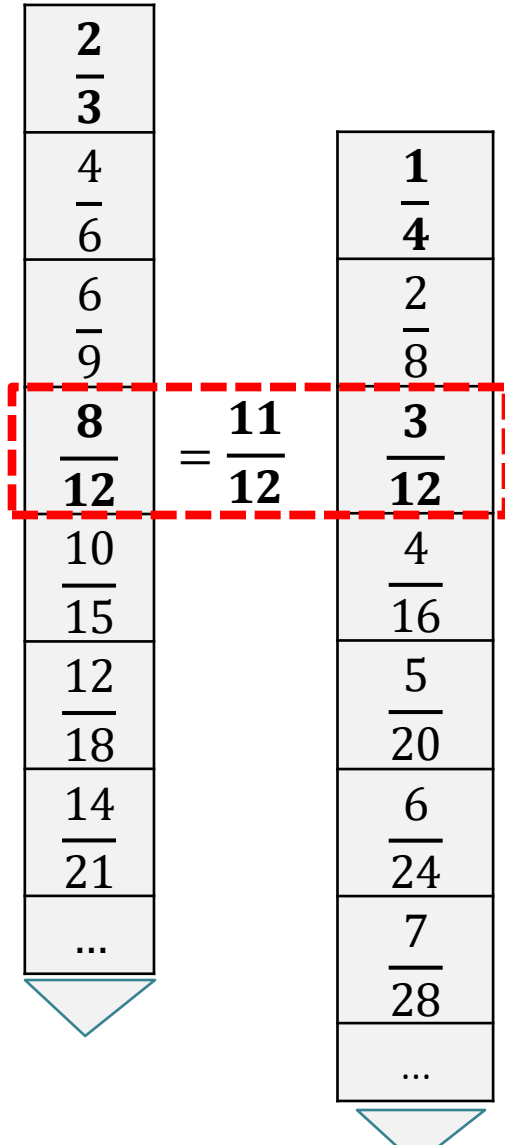
$$\frac{1}{5} + \frac{2}{5}$$

$$= \frac{3}{5}$$

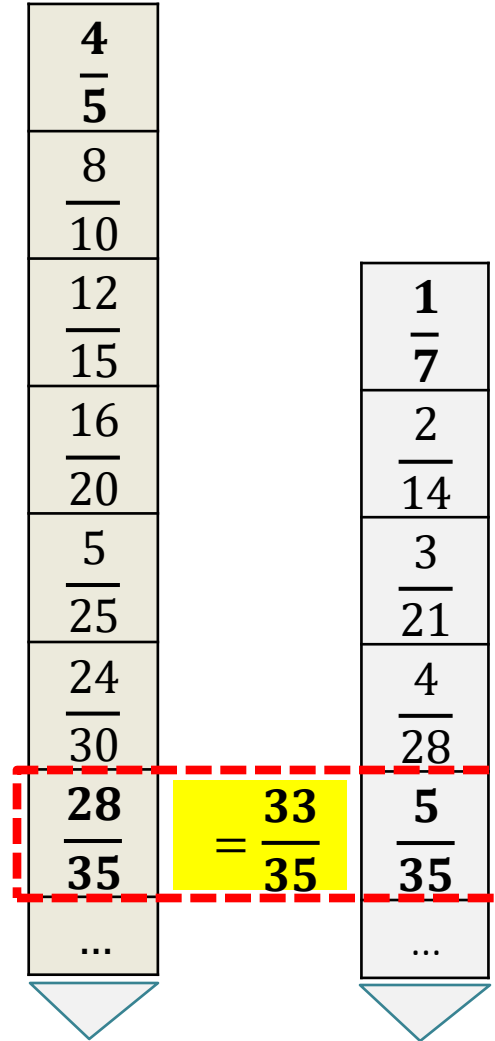
$$\frac{6}{7} - \frac{2}{7}$$

$$= \frac{4}{7}$$

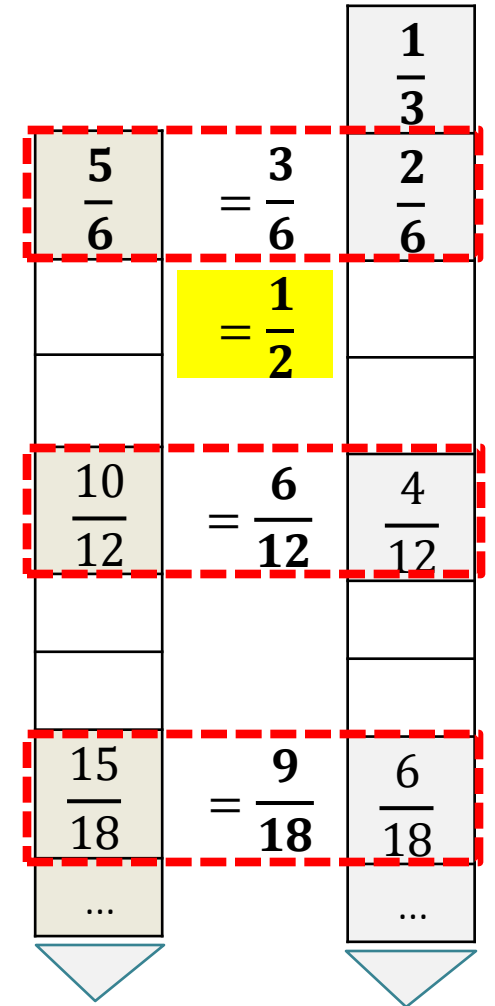
$$\frac{2}{3} + \frac{1}{4}$$

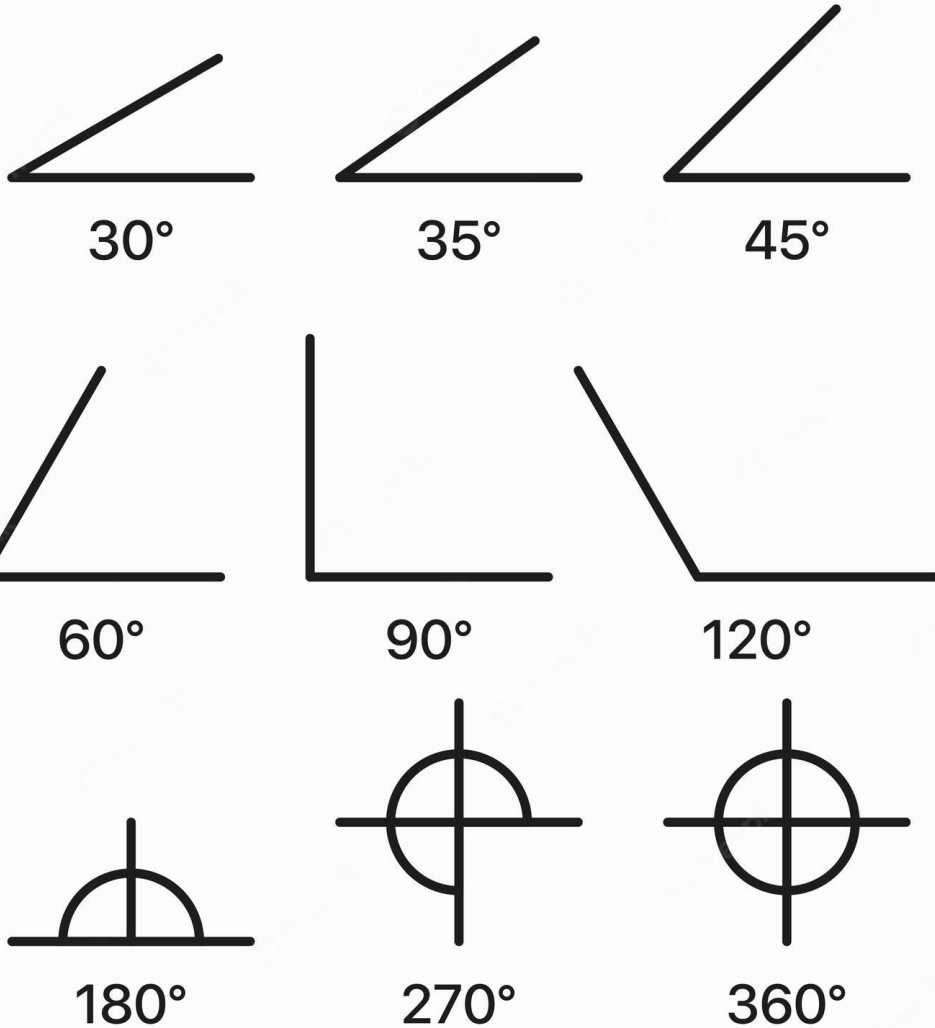


$$\frac{4}{5} + \frac{1}{7}$$



$$\frac{5}{6} - \frac{1}{3}$$





Soorten hoeken:

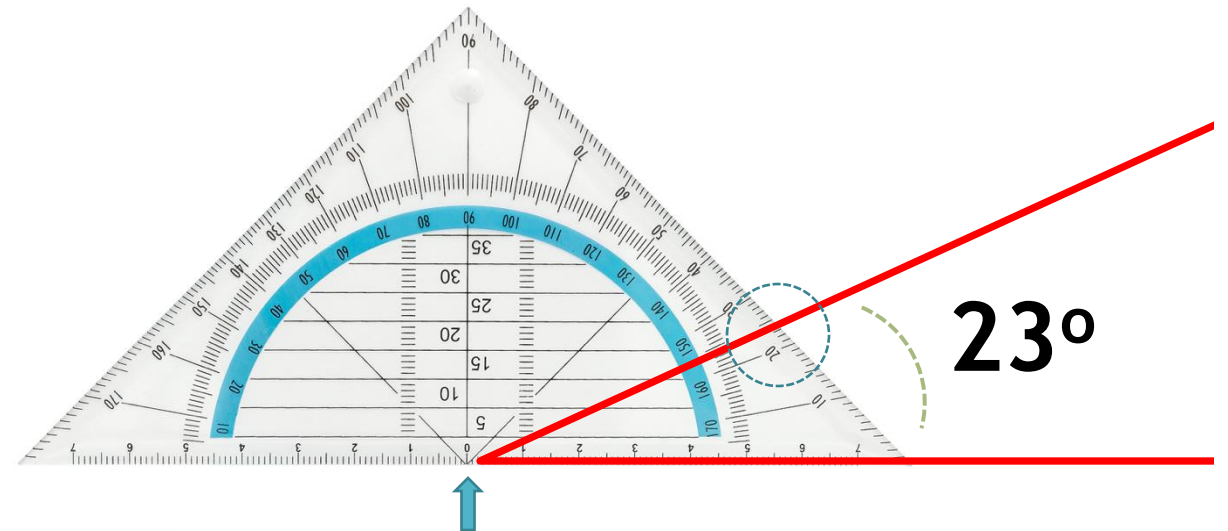
scherpe hoek: $0^\circ - 90^\circ$

rechte hoek: 90°

stompe hoek: $90^\circ - 180^\circ$

gestrekte hoek: 180°

volle hoek: 360°



Breuken optellen (+):

$$\frac{1}{5} + \frac{1}{5} = \frac{1+1}{5} = \frac{2}{5}$$

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

$$\frac{2}{7} + \frac{6}{7} = \frac{8}{7} = 1\frac{1}{7}$$

$$\frac{1}{2} + \frac{1}{4} = \frac{2}{4} + \frac{1}{4} = \frac{3}{4}$$

× 5

× 4

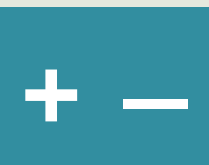
$$\frac{1}{2} + \frac{1}{3} = \frac{3}{6} + \frac{2}{6} = \frac{5}{6}$$

$$\frac{2}{4} + \frac{1}{5} = \frac{10}{20} + \frac{4}{20} = \frac{14}{20} = \frac{7}{10}$$

× 5

× 4

$$\frac{2}{3} + \frac{3}{4} = \text{---} + \text{---} = \text{---}$$



$$\frac{2}{\mathbf{7}} + \frac{3}{\mathbf{7}} = \frac{2+3}{\mathbf{7}} + \frac{5}{7}$$

$$\boxed{\frac{2}{3}} + \left(\frac{4}{5}\right) = \boxed{\frac{\dots}{\mathbf{15}}} + \left(\frac{\dots}{\mathbf{15}}\right) = \boxed{\frac{10}{\mathbf{15}}} + \left(\frac{12}{\mathbf{15}}\right) = \frac{22}{\mathbf{15}} = 1\frac{7}{15}$$

$$\frac{2}{3} - \frac{1}{6} = \frac{4}{\mathbf{6}} - \frac{1}{\mathbf{6}} = \frac{3}{6} = \frac{1}{2}$$

$$\left[\frac{2}{3} - \frac{1}{6} = \frac{12}{\mathbf{18}} - \frac{3}{\mathbf{18}} = \frac{12-3}{18} = \frac{9}{18} = \frac{1}{2} \right]$$



$$\frac{2}{3} \times \frac{4}{5} = \frac{2 \times 4}{3 \times 5} = \frac{\mathbf{8}}{\mathbf{15}}$$

$$\left(4 = \frac{4}{1} \right)$$

$$\frac{2}{3} \times 4 = \frac{2}{3} \times \frac{4}{1} = \frac{2 \times 4}{3 \times 1} = \frac{\mathbf{8}}{3} = 2\frac{2}{3}$$



$$\frac{2}{3} : \frac{4}{5} = \frac{2}{3} \times \frac{\mathbf{5}}{\mathbf{4}} = \frac{2 \times 5}{3 \times 4} = \frac{10}{12} = \frac{5}{6}$$

$$\frac{2}{3} : 4 = \frac{2}{3} : \frac{4}{1} = \frac{2}{3} \times \frac{\mathbf{1}}{\mathbf{4}} = \frac{2 \times 1}{3 \times 4} = \frac{2}{12} = \frac{1}{6}$$

$$: \frac{a}{b} = \times \frac{b}{a}$$

Oppervlakte van basis-vormen

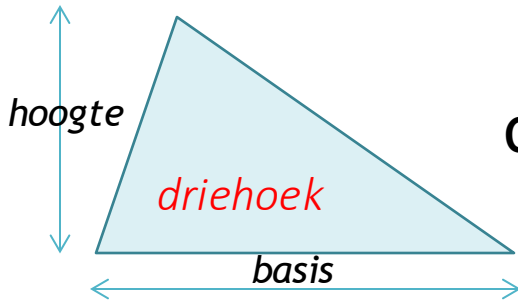
$m \times m = m^2$ "vierkante meter"



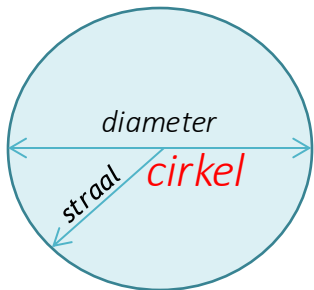
Opp. = lengte $\times$ lengte



Opp. = lengte $\times$ breedte



Opp. = basis $\times$ hoogte : 2



Opp. = $\pi \times$ straal $\times$ straal

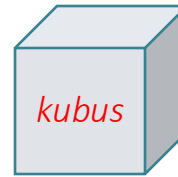
($\pi \approx 3,14$)

(straal = diameter : 2)

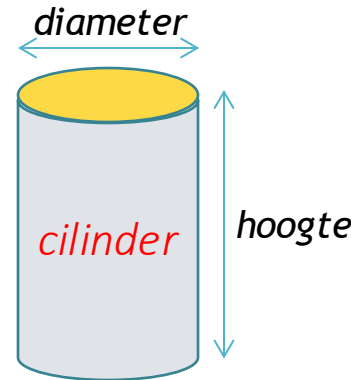
(Diameter = 2 $\times$ straal)

Inhoud van basis-lichamen

$m \times m \times m = m^3$ "kubieke meter"



Inh. = lengte $\times$ breedte $\times$ hoogte

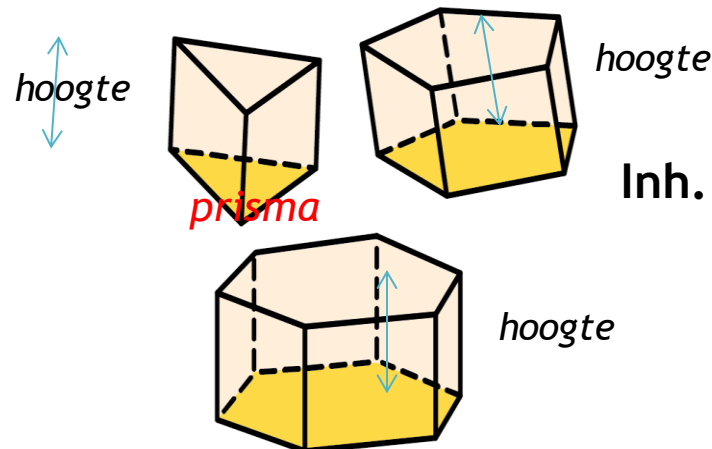


Inh. = $\pi \times$ straal $\times$ straal $\times$ hoogte

($\pi \approx 3,14$)

(straal = diameter : 2)

Diameter = 2 $\times$ straal



Inh. = opp. grondvlak $\times$ hoogte

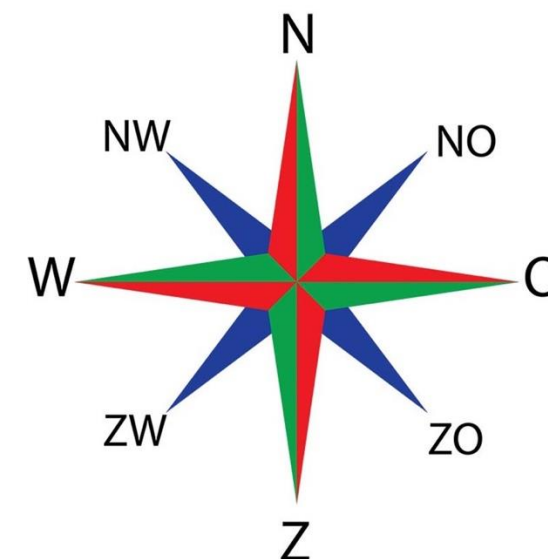
+	<u>PLUS</u> <i>optellen, totaal, bij elkaar, samen</i>	$a + b$ is SOM
—	<u>MIN</u> <i>afrekken, minder, korting</i>	$a - b$ is VERSCHIL
×	<u>KEER</u> of <u>MAAL</u> <i>vermenigvuldigen, tafels</i>	$a \times b$ is PRODUCT (a en b zijn factor)
:	<u>GEDEELD</u> door <i>delen, (gelijk) verdelen</i>	$a : b$ is QUOTIËNT
$1\frac{3}{4}$	<u>BREUK</u> (helen + breuk)	(<i>helen</i>) $\frac{\text{teller}}{\text{noemer}}$
$\approx$	<u>AFRONDEN</u> <i>(decimalen, cijfers achter de komma)</i>	$12,545 \approx 12,55 \approx \cancel{12,6}$ $12,545 \approx 12,5$ $12,545 \approx 13$

Even: ...0 ...2 4, 6, 8 10, 12, ...
ONeven: 1, 3, 5, 7, 9, 11, ...

◀Links— +Rechts▶

Horizontaal
 verticaal

(Wind)richtingen:



Wat doe je éérs?

- (...) haakjes
- machten (3^2) en wortels ($\sqrt{9}$)
- $\times$ en $:$ van links naar rechts
- $+$ en $-$ van links naar rechts

$$6 + 10 : 2 = 6 + 5 = 11$$
$$(6 + 10) : 2 = 16 : 2 = 8$$

$$8 + 4 - 2 \times 6 : (14 : 7) =$$
$$8 + 4 - 2 \times 6 : 2 =$$
$$8 + 4 - 12 : 2 =$$
$$8 + 4 - 6 =$$
$$12 - 6 =$$



Rekenen met schaal

1 : 250.000 betekent

1 cm op de kaart = 250.000 cm echt

250.000 cm =

2.500 m =

2½ km

cm	1	4	10	
km	2,5	10	15	