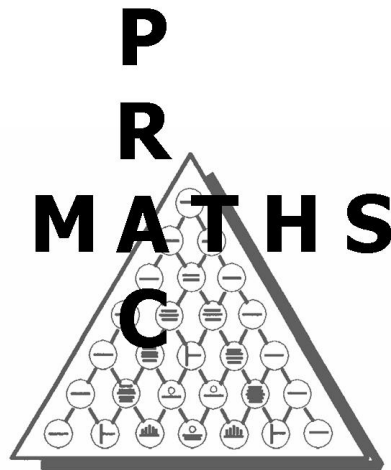


Gr 7 PracMaths



ANSWERS ANTWOORDE

Set by / Opgestel deur
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CAPS



ANSWERS/ANTWOORDE	
Term 1/ Kwartaal 1	
Section 1 / Afdeling 1	
A.	
1.1	
a) 63 102 154	b) 160 220 320
c) 56 17 22	d) 144 168 458
e) 22 57 290	f) 87 121 97
g) 45 200 240	h) 89 118 115
1.2	
a) 63 48 108 28 72	b) 49 64 81 121 144
c) 51 115 204 376 585	d) 484 1456 2898 4785 6516
e) 9 8 8 7 r 1	f) 12 12 12 12
g) 9 r 2 7 r 5 9 r 5 8 r 4	h) 13 13 24 32
1.3	
a) 12 + 12 = 24 c) 44 + 5 = 49 e) 60 ÷ 12 = 5 g) 20 × 7 = 140	b) 8 + 8 = 16 d) 30 - 12 = 18 f) 90 ÷ 9 = 10 h) 100 × 24 = 2400
1.4	
a) 48 + 63 = 111 c) 25 + 38 = 63 e) 81 + 51 = 30 g) 16 + 60 = 76 i) 6 + 20 = 26	b) 0 + 21 = 21 d) 85 ÷ 5 = 17 f) 10 + 20 + 0 = 30 h) 175 × 3 = 525 j) 225 - 6 = 219
2.1	
c) 53 694 + 40 000 → 93 694 + 5000 → 98 694 + 300 → 98 994 + 40 → 99 034 + 7 → 99 041	d) 76 549 - 20 000 → 56 549 - 1000 → 55 549 - 600 → 54 949 - 70 → 54 879 - 5 → 54 874
2.2	
c) 786 + 14 + 458 - 14 = 800 + 444 = 1244 Or/of 458 + 42 + 786 - 42 = 500 + 744 = 1244	d) 953 + 25 - 575 - 25 = 978 - 600 = 378
2.3	
c) 3274 × 9 × 8 = 29 466 × 8 = 235 728	d) 2226 ÷ 7 ÷ 6 = 318 ÷ 6 = 53
2.4	
c) $8^1 7^1 6^1 5^1 9^1 4$ $+ 5 4 7 8 4 9$ $\hline 14 2 4 4 4 3$	d) $9^8 5^{15} 4^3 3^{13} 8^7 1^{11}$ $- 6 9 2 4 7 5$ $\hline 2 6 1 9 0 6$
e) $5^1 9^1 7^1 8^1 4 2$ $+ 4 6 8 5 8 7$ $\hline 10 6 6 4 2 9$	f) $8 6^5 3^{12} 4^{14} 9^8 6^{16}$ $- 5 2 9 5 7 7$ $\hline 3 3 3 9 1 9$
2.5	
c) $14^{13} 2^{11} 4^{13} 4^{13} 4^{14} 3^{13}$ $- 5 4 7 8 4 9$ $\hline 8 7 6 5 9 4$	d) $2^1 6^1 1^1 9 0^1 6$ $+ 6 9 2 4 7 5$ $\hline 9 5 4 3 8 1$
e) $10^9 6^{15} 6^{15} 4^{13} 2^{12} 9$ $- 4 6 8 5 8 7$ $\hline 5 9 7 8 4 2$	f) $3 3^1 3^1 9^1 1 9$ $+ 5 2 9 5 7 7$ $\hline 8 6 3 4 9 6$
3.1	
c) 5079 $\times 87$ $\hline 3^1 5553$ $+ 406320$ $\hline 441873$	d) $89r13$ $43 \overline{) 3840}$ $\underline{-344}$ 400 $\underline{-387}$ 13
e) 3682 $\times 69$ $\hline 33^1 138$ $+ 220920$ $\hline 254058$	f) $83r4$ $78 \overline{) 6478}$ $\underline{-624}$ 238 $\underline{-234}$ 4
3.2	
c) 5079 $87 \overline{) 441873}$ $\underline{-435}$ 687 $\underline{-609}$ 783 $\underline{-783}$ 0	d) $89r13$ $\times 43$ $\hline 2^1 67$ $+ 3560$ $\hline 382^1 7$ $+ 13$ $\hline 3840$
e) 3682 $\times 69$ $\hline 33^1 138$ $+ 220920$ $\hline 254058$	
e) $69 \overline{) 254058}$ $\underline{-207}$ 470 $\underline{-414}$ 565 $\underline{-552}$ 138 $\underline{-138}$ 0	
f) $83r4$ $\times 78$ $\hline 664$ $\underline{+5810}$ 6474 $\underline{+4}$ 6478	
4.1	
a) 67 250, 67 250, 67 200, 67 000 b) 958 550, 958 500, 959 000, 960 000	
4.3	
b) 2700 + 6300 ≈ 9000 c) 15 000 - 10 000 ≈ 5000 d) 7600 + 4900 ≈ 12 500	
4.4	
b) i) 9021 c) i) 4782 d) i) 12 443	ii) 21 ii) 218 ii) 57
5.1	
a) 3997; 4047; 4097 (+50) b) 7487; 7462; 7437 (-25) c) 19 463; 20 463; 21 463 (+1000) d) 11 965; 11 765; 11 565 (-200) e) 1864; 1963; 2062 (+99) f) 4567; 4468; 4369 (-99) g) 14 213; 14 363; 14 513 (+150) h) 99 845; 99 595; 99 345 (-250)	
5.2	
a) 108, 121, 157 b) 320, 156, 14	
6.	
a) 1, 2, 3, 4, 5 b) 0, 1, 2, 3, 4 c) 2 d) 199 995, 199 997, 199 999, 200 001 e) 99 999 - 1000 = 98 999 f) 7, 14, 21, 28, 35 g) 100 110 h) 390 893 i) 400 000 j) 8627 k) 63 900 l) 10 m) 1778 n) 67	
10.1	
a) 76 c) 94 e) -7 500 + 747 1247	b) 138 d) 51 f) +34 900 + 491 1391

10.2
✓ : a, b, e, f, h, i, j, l, m, n, o
✗ : c, d, g, k

B.
2.
a) 2, 3, 5, 7, 11, 13, 17, 19, ...
b) 4, 6, 8, 9, 10, 12, 14, 15, ...
c) has only 1 factor, itself/
het slegs 1 faktor, ditself.

3.1
i) ✓ ii) ✗ iii) ✓ iv) ✓
v) ✓ vi) ✓ vii) mult of 3/veelv v 3 vii) ✓

3.2
b) 18/ is
c) 17/ is not/is nie
d) 24/ is

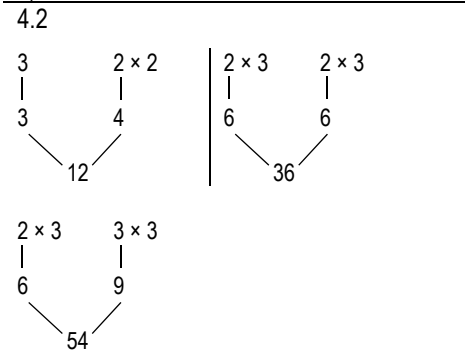
3.3
a)

2	3	4	5
✗	✓	✗	✓
✓	✓	✓	✗
✓	✗	✓	✓

b)

2	3	4	5
✓	✗	✓	✓
✗	✗	✗	✓
✓	✓	✓	✗
✗	✓	✗	✓

4.1
b) 1, 2, 4, 7, 14, 28
c) 1, 2, 3, 6, 7, 14, 21, 42
d) 1, 2, 3, 4, 6, 8, 12, 16, 24, 48



4.3
a) 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47
b) Prime factors of/ Priem faktore van:
i) 6: 2, 3 ii) 18: 2, 3
iii) 24: 2, 3 iv) 35: 5, 7
v) 45: 3, 5 vi) 74: 2, 37
vii) 88: 2, 11 viii) 92: 2, 23
c) Prime factors of/ Priem faktore van:
i) 132: 2, 3, 11 ii) 140: 2, 5, 7
iii) 225: 3, 5 iv) 256: 2
v) 380: 2, 5, 19 vi) 729: 3

4.4
b) $120 = 1 \times 120; 2 \times 60; 3 \times 40; 4 \times 30; 5 \times 24; 6 \times 20; 8 \times 15; 10 \times 12$
Factors/ Faktore: 1, 2, 3, 4, 5, 6, 8, 10, 12, 15, 20, 24, 30, 40, 60, 120

c) $156 = 1 \times 156; 2 \times 78; 3 \times 52; 4 \times 39; 6 \times 26; 12 \times 13$
Factors/ Faktore: 1, 2, 3, 4, 6, 12, 13, 26, 39, 52, 78, 156

d) $225 = 1 \times 225; 3 \times 75; 5 \times 45; 15 \times 15$
Factors/ Faktore: 1, 3, 5, 15, 45, 75, 225

e) $368 = 1 \times 368; 2 \times 184; 4 \times 92; 8 \times 46; 16 \times 23$
Factors/ Faktore: 1, 2, 4, 8, 16, 23, 46, 92, 184, 368

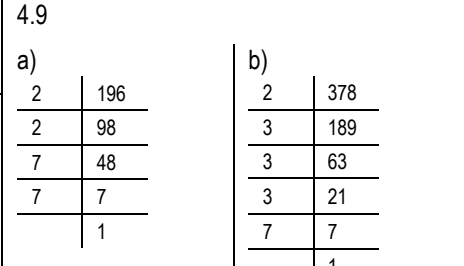
f) $490 = 1 \times 490; 2 \times 245; 5 \times 98; 8 \times 46; 7 \times 70; 10 \times 49; 14 \times 35$
Factors/ Faktore: 1, 2, 5, 7, 10, 49, 70, 98, 245, 490, 14, 35

g) $750 = 1 \times 750; 2 \times 375; 3 \times 250; 5 \times 150; 6 \times 125; 10 \times 75; 15 \times 50; 25 \times 30$
Factors/ Faktore: 1, 2, 3, 5, 6, 10, 15, 25, 30, 50, 75, 125, 150, 250, 375, 750

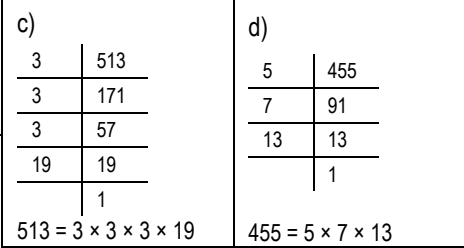
4.6
a) $8 = 2 \times 2 \times 2$ b) $20 = 2 \times 2 \times 5$
c) $36 = 2 \times 2 \times 3 \times 3$ d) $42 = 2 \times 3 \times 7$
e) $54 = 2 \times 3 \times 3 \times 3$

4.8
a) $135 \xrightarrow{+3} 45 \xrightarrow{+3} 15 \xrightarrow{+3} 5 \xrightarrow{+5} 1$
 $135 = 3 \times 3 \times 3 \times 5$
b) $248 \xrightarrow{+2} 124 \xrightarrow{+2} 62 \xrightarrow{+2} 31 \xrightarrow{+31} 1$
 $248 = 2 \times 2 \times 2 \times 31$

c) $396 \xrightarrow{+2} 198 \xrightarrow{+2} 99 \xrightarrow{+3} 33 \xrightarrow{+3} 11 \xrightarrow{+11} 1$
 $396 = 2 \times 2 \times 3 \times 3 \times 11$



$196 = 2 \times 2 \times 7 \times 7$
 $378 = 2 \times 3 \times 3 \times 3 \times 7$



5.2
a) $M_3 = \{3; 6; 9; 12; \dots\}$
 $V_3 = \{3; 6; 9; 12; \dots\}$
 $M_4 = \{4; 8; 12; 16; \dots\}$
 $V_4 = \{4; 8; 12; 16; \dots\}$

CM = $\{12; 24; \dots\}$ & LCM/KGV = 12
GV = $\{12; 24; \dots\}$ & LCM/KGV = 12

b) $M_5 = \{5; 10; 15; 20; 25; 30; \dots\}$
 $V_5 = \{5; 10; 15; 20; 25; 30; \dots\}$

$M_6 = \{6; 12; 18; 24; 30; 36; \dots\}$
 $V_6 = \{6; 12; 18; 24; 30; 36; \dots\}$

CM = $\{30; 60; \dots\}$ & LCM/KGV = 30
GV = $\{30; 60; \dots\}$ & LCM/KGV = 30

5.3

a) $M_2 / V_2 = \{2, 4, 6, 8, 10, \boxed{12}, 14, 16, \dots\}$
 $M_4 / V_4 = \{4, 8, \boxed{12}, 16, 20, 24, 28, \dots\}$
 $M_6 / V_6 = \{6, \boxed{12}, 18, 24, 30, \dots\}$
LCM/KGV = 12

b) $M_3 / V_3 = \{3; 6; 9; \boxed{12}; 15; \dots\}$
 $M_4 / V_4 = \{4; 8; \boxed{12}; 16; 20; \dots\}$
 $M_6 / V_6 = \{6; \boxed{12}; 18; 24; \dots\}$
LCM/KGV = 12

c) $M_6 / V_6 = \{6, 12, 18, 24, 30, 36, \dots, \boxed{60}, \dots\}$
 $M_{12} / V_{12} = \{12, 24, 36, 48, \boxed{60}, \dots\}$
 $M_{15} / V_{15} = \{15, 30, 45, \boxed{60}, 75, \dots\}$
LCM/KGV = 60

d) $M_{20} / V_{20} = \{20; 40; 60; 80; \boxed{100}; \dots\}$
 $M_{25} / V_{25} = \{25; 50; 75; \boxed{100}; \dots\}$
LCM/KGV = 100

6.2

a) $F_3 = \{1, 3\}$
 $F_{12} = \{1, 2, 3, 4, 6, 12\}$
CF/GF: 1, 3
HCF/ GGF = 3

b) $F_{12} = \{1; 2; 3; 4; 6; 12\}$
 $F_{18} = \{1; 2; 3; 6; 9; 18\}$
CF/GV = $\{1; 2; 3; 6\}$
HCF/ GGF = 6

c) $F_{18} = \{1, 2, 3, 6, 9, 18\}$
 $F_{24} = \{1, 2, 3, 4, 6, 8, 12, 24\}$
HCF/GGF = 6

d) $F_{15} = \{1; 3; 5; 15\}$
 $F_{25} = \{1; 5; 25\}$
HCF/ GGF = 5

6.3
The factors of/ Die faktore van

a) 3: 1, 3 7: 1, 7 11: 1, 11 13: 1, 13 23: 1, 23 43: 1, 43	b) 2: 1, 2 5: 1, 5 13: 1, 13 7: 1, 7 17: 1, 17 47: 1, 47
---	---

HCF = 1 ∴ numbers are prime/
GGF ∴ getalle is primegetalle

6.4

The factors of/ Die faktore van

- a) 15: 1, 3, 5, 15
 18: 1, 2, 3, 6, 9, 18
 24: 1, 2, 3, 4, 6, 8, 12, 24
 HCF/GGF = 3
- b) 12: 1, 2, 3, 4, 6, 12
 48: 1, 2, 3, 4, 6, 8, 12, 16, 24, 48
 72: 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72
 HCF/GGF = 12
- c) 30: 1, 2, 3, 5, 6, 10, 15, 30
 45: 1, 3, 5, 9, 15, 45
 75: 1, 3, 5, 15, 25, 75
 HCF/GGF = 15

7.

b)

2	144
2	72
2	36
2	18
3	9
3	3
	1

2	216
2	108
2	54
3	27
3	9
3	3
	1

144 = $2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 3$ 216 = $2 \times 2 \times 2 \times 3 \times 3 \times 3 \times 3$

- i) HCF/ GGF = $2 \times 2 \times 2 \times 3 \times 3 = 72$
 ii) LCM/ KGV = $2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 3 = 432$

c)

2	78
3	39
13	13
	1

2	104
2	52
2	26
13	13
	1

78 = $2 \times 3 \times 13$ 104 = $2 \times 2 \times 2 \times 13$

- i) HCF/ GGF = $2 \times 13 = 26$
 ii) LCM/ KGV = $2 \times 3 \times 13 \times 2 \times 2 = 312$

d)

2	132
2	66
3	33
11	11
	1

2	198
3	99
3	33
11	11
	1

132 = $2 \times 2 \times 3 \times 11$ 198 = $2 \times 3 \times 3 \times 11$

- i) HCF/ GGF = $2 \times 3 \times 11 = 66$
 ii) LCM/ KGV = $2 \times 2 \times 3 \times 11 \times 3 = 396$

C.

2.
 a) $\frac{1}{4}$ (1:4) b) $\frac{2}{5}$ (2:5)
 c) $\frac{3}{8}$ (3:8) d) $\frac{3}{11}$ (3:11)
 e) 5:7 f) $\frac{3}{17}$ (3:17)

3.
 a) $\frac{24}{44} \neq \frac{1}{2}$ b) $\frac{36}{9} \neq \frac{3}{1}$ c) $\frac{30}{25} \neq \frac{5}{4}$

4.
 a) $R1,40 \times 6 = R8,40$
 b) $R36 \times 12 = R432$
 c) R9 R63 d) R1,02 R10,20
 e) R5,10 R40,80 f) R2,10 R10,50

5.
 b) K's amount/ K se bedrag = $\frac{3}{8} \times R96 = R36$
 S's amount/ S se bedrag = $\frac{5}{8} \times R96 = R60$

- c) A's amount/ A se bedrag = $\frac{2}{9} \times R72 = R16$
 G's amount/ G se bedrag = $\frac{7}{9} \times R72 = R56$

- d) Jon's no./ Jon se aantal = $\frac{9}{16} \times 256 = 144$ marbles/albasters
 James' no./ James se aantal = $\frac{7}{16} \times 256 = 112$ marbles/albasters

- e) A's share/ A se deel = $\frac{2}{9} \times 72 = 16$ sweets/lekkers
 B's share/ B se deel = $\frac{3}{9} \times 72 = 24$ sweets/lekkers
 C's share/ C se deel = $\frac{4}{9} \times 72 = 32$ sweets/lekkers

D.

2.
 c) Rate/ Koers = $\frac{104km}{4h} = 26km/h$
 d) Rate/ Koers = $\frac{351km}{39\ell} = \frac{117km}{13\ell} = 9km/\ell$
 e) Rate/ Koers = $\frac{R28,80}{36a} = \frac{R2,40}{3a} = 80c/a$
 f) Rate/ Koers = $\frac{35\ell}{5r} = 7\ell/r$

- g) Rate/ Koers = $\frac{R780}{13h} = R60/h$
 h) Rate/ Koers = $\frac{175b/s}{350s} = \frac{1}{2} bag/sak/s$

3.
 a) $\frac{24}{30} = \frac{8}{10}$ & $\frac{42}{50} = \frac{8,4}{10}$ best/beste $\frac{42}{50}$

- b) $\frac{R1,20}{4} = 30c/1$ & $\frac{R1,05}{3} = 35c/1$
 cheapest/goedkoopste: 4 for/vir R1,20

- c) $\frac{644km}{4h} = 161km/h$ & $\frac{471km}{3h} = 157km/h$
 fastest/vinnigste: 644km in 4 h

- d) $\frac{1256b/s}{2ha} = 628b/s/ha$
 & $\frac{1890b/s}{3ha} = 630b/s/ha$
 better/beter: 1890 bags/sakke from/van 3ha

4.
 a) $\frac{12k}{1h} = \frac{12000m}{3600s} = \frac{10m}{3s} = 3\frac{1}{3}m/s$
 b) $1s - 8m$
 $3600s - 8 \times 3600m$
 $1h - \frac{8 \times 3600}{1000s} km$
 $\therefore 8m/s = 28,8 km/h$

E.

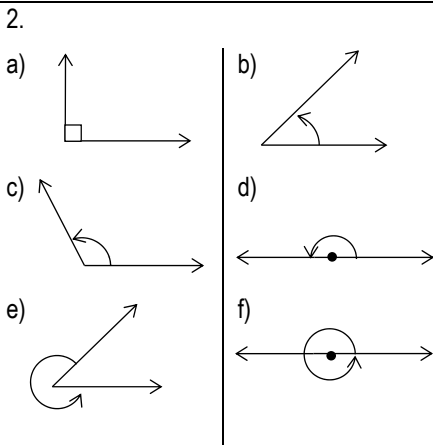
2.

a) i) 80 km	b) i) 80 km/h
ii) 570 km	ii) 50 km/h
iii) 960 km	iii) 90 km/h
c) i) 4h	d) i) 80 km/h
ii) 8h	ii) 340 km
iii) 8h	iii) 11h

3.
 a) $s = \frac{570km}{6hours/ure} = 95km/h$
 b) $t = \frac{300km}{120km/h} = \frac{5}{2} hours/ure = 2,5 hours/ure$
 c) $30min \times \frac{60s}{min} = 1800 seconds/sekondes$
 $d/a = 3m/s \times 1800 s = 5400 m = 5,4 km$

7.
b) i) 90°
ii) No/Neer

B.
1.
a) E, B, C, A, D



3.
a) 30° | b) 60°
c) 90° | d) 180°

4.
a) 360° | b) 180° | c) 90° | d) 30°
e) 360° | f) 180° | g) 90° | h) 360°
i) 45° | j) 9° | k) 30° | l) 18°

6.
a) 20° | b) 65° | c) 90° | d) 90°
e) 130° | f) 50° | g) 15° | h) 115°

7.
 $\hat{A} = 30^\circ, \hat{B} = 90^\circ, \hat{C} = 180^\circ,$
 $\hat{D} = 60^\circ, \hat{E} = 120^\circ, \hat{F} = 210^\circ,$
 $\hat{G} = 150^\circ$

9.
a) protractor/degrees
gradeboog/grade
b) i) $\hat{ABC} = 38^\circ$ (acute/skerp)
ii) $\hat{PQR} = 127^\circ$ (obtuse/ stomp)
iii) $\hat{XYZ} = 50^\circ$ (acute/skerp)
iv) $\hat{BCD} = 124^\circ$ (obtuse/ stomp)

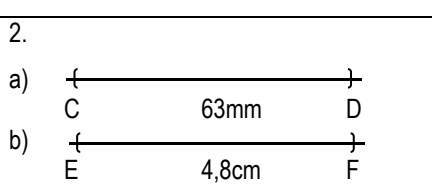
10.
a) $45^\circ + 70^\circ = 115^\circ$ | b) 135°
c) 180° | d) 180°
e) $45^\circ + 70^\circ + 65^\circ = 180^\circ$

11.
a) acute, obtuse, reflex, obtuse, reflex/
skerp, stomp, inspringende, stomp,
inspringende.
b) acute, obtuse, straight, reflex, revolution/
skerp, stomp, gestrekte, inspringende,
omwenteling.

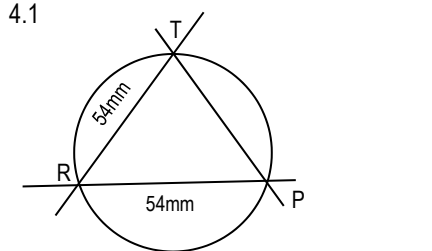
12.
Check accuracy, neatness and labelling of angles/

Kontroleer akkuraatheid, netheid en benoeming van hoeke.

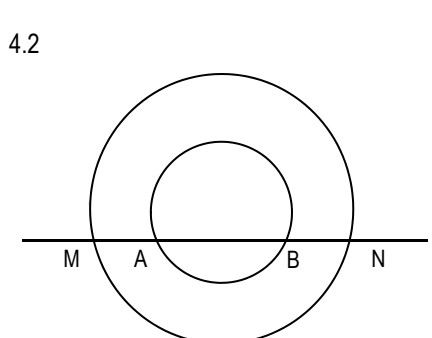
C.
1.
b) 3,5 cm, 4,8 cm, 1,3 cm
c) 5,1 cm, 4,4 cm, 2,6 cm



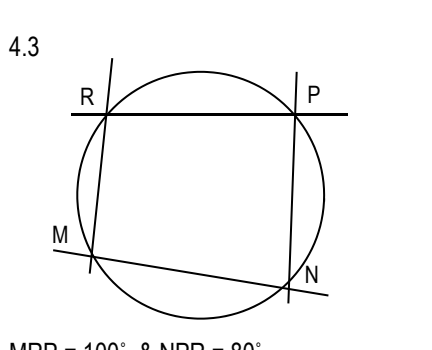
4.1 – 5.6
Note that the diagrams below are not drawn to scale/Die volgende diagramme is nie volgens skaal geteken nie.



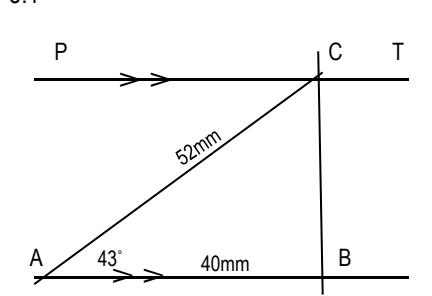
By measurement/ Deur meting:
 $PT = 57\text{mm}, \hat{PRT} = 64^\circ \text{ \& } \hat{RTP} = 58^\circ$



$AM = BN = 2,5\text{cm}$

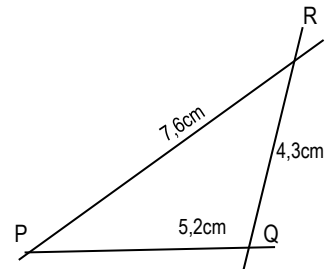


$\hat{MRP} = 100^\circ \text{ \& } \hat{NPR} = 80^\circ$



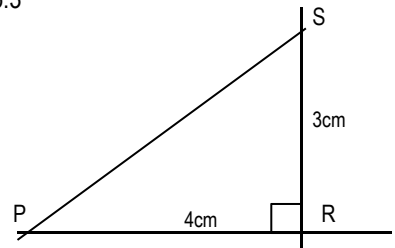
$\hat{B} = 87^\circ$
 $\hat{ACB} = 50^\circ$
 $\hat{ACP} = 43^\circ$
 $\hat{A} + \hat{B} + \hat{ACB} = 180^\circ$

5.2



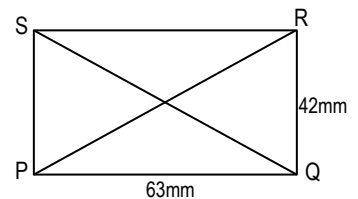
$\hat{P} = 34^\circ, \hat{Q} = 105^\circ \text{ \& } \hat{R} = 41^\circ$
 $\hat{P} + \hat{Q} + \hat{R} = 180^\circ$

5.3



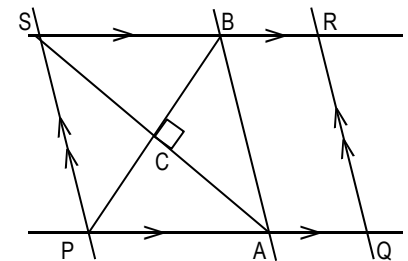
$PS = 5\text{cm}$
 $\hat{P} = 46^\circ \text{ \& } \hat{S} = 54^\circ$
 $\hat{P} + \hat{S} + \hat{R} = 180^\circ$

5.5



$PR = SQ = 76\text{mm}$

5.6



c) rhombus & parallelogram/
ruit & parallelogram
e) $CA = CS = 3,4\text{cm} \text{ \& } CP = CB = 2,4\text{cm}$
f) 90°
g) Yes/Ja



Section 4 / Afdeling 4

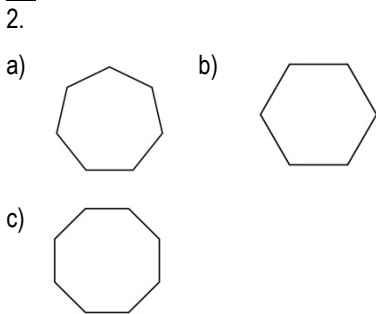
A.

- 3.
- | | |
|----------------------------------|---------------------------------|
| a) i) right-angled/ reghoekige | ii) obtuse-angled/ stomphoekige |
| iii) obtuse-angled/ stomphoekige | iv) acute-angled/ skerphoekige |
| v) acute-angled/ skerphoekige | vi) acute-angled/ skerphoekige |
-
- | | |
|------------------------------|------------------------------|
| b) i) scalene/ ongelyksydige | ii) scalene/ ongelyksydige |
| iii) scalene/ ongelyksydige | iv) isosceles/ gelykbenige |
| v) scalene/ ongelyksydige | vi) equilateral/ gelyksydige |

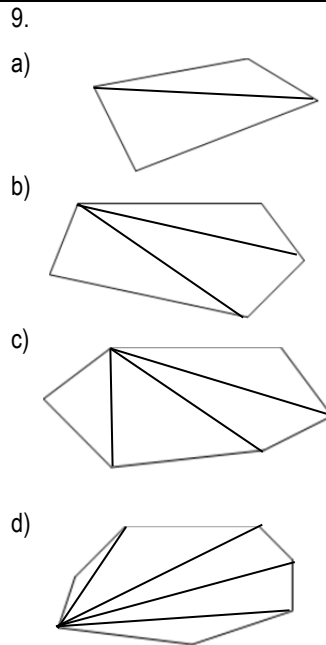
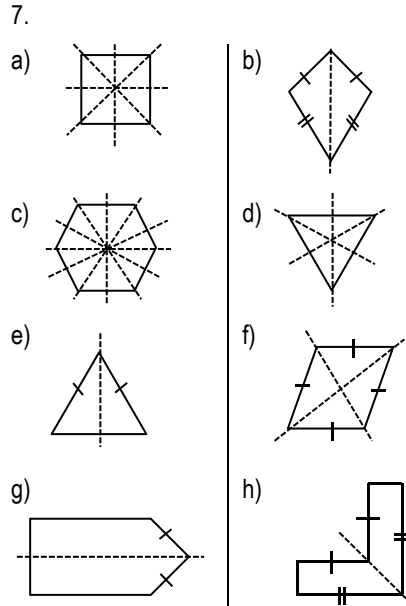
- 4.
- i) isosceles, right-angled Δ / gelykbenige, reghoekige Δ
 - ii) scalene, right-angled Δ / ongelyksydige, reghoekige Δ
 - iii) scalene, obtuse-angled Δ / ongelyksydige, stomphoekige Δ
 - iv) isosceles, obtuse-angled Δ / gelykbenige, stomphoekige Δ

- 5.
- a) scalene, obtuse-angled Δ / ongelyksydige, stomphoekige Δ
 - b) equilateral, acute-angled Δ / gelyksydige, skerphoekige Δ
 - c) isosceles, right-angled Δ / gelykbenige, reghoekige Δ
 - d) scalene, right-angled Δ / ongelyksydige, reghoekige Δ
 - e) scalene, obtuse-angled Δ / ongelyksydige, stomphoekige Δ

B.



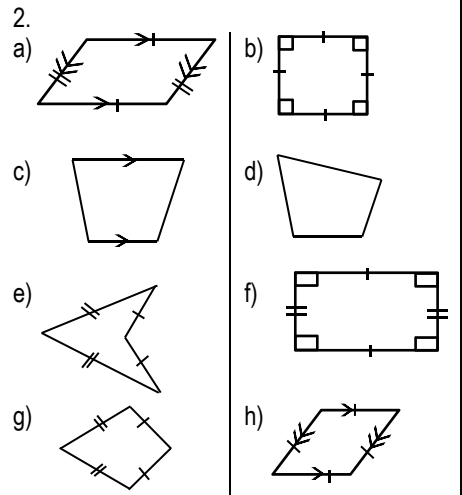
6. a & b)
- i) pentagon, concave/ vyfhoek (pentagoon), konkaf
 - ii) quadrilateral, convex/ vierhoek, konveks
 - iii) octagon, concave/ aghoek, konkaf
 - iv) hexagon, convex/ seshoek, konveks
 - v) triangle, convex/ driehoek, konveks
 - vi) arrowhead, concave/ pylpunt, konkaf



10.

a) quadrilateral/ vierhoek	4	1	2
b)	5	2	3
c)	6	3	4
d)	7	4	5
e) octagon/ aghoek	8	5	6
f)	10	7	8
g)	12	9	10

C.



- 3.
- | | | | |
|--|--|--|--|
| a) <input checked="" type="checkbox"/> | b) <input checked="" type="checkbox"/> | c) <input checked="" type="checkbox"/> | d) <input checked="" type="checkbox"/> |
| e) <input checked="" type="checkbox"/> | f) <input checked="" type="checkbox"/> | g) <input checked="" type="checkbox"/> | h) <input checked="" type="checkbox"/> |

- 4.
- a) parallelogram
 - b) rectangle/ reghoek
 - c) rectangular quad/ reëlmatige vierhoek
 - d) kite/ vlieër
 - e) trapezium/ trapesium
 - f) regular quad/ reëlmatige vierhoek
 - g) square/ vierkant
 - h) trapezium/ trapesium
 - i) arrowhead/ pylpunt
 - j) quadrilateral/ vierhoek
 - k) rectangle/ reghoek
 - l) rhombus/ ruit

- 5.
- a) each angle 90° / elke hoek 90°
 - b) all 4 sides equal/ al 4 sye ewe lank
 - c) all 4 sides equal/ al 4 sye ewe lank
 - d) 1 pair opposite sides parallel/ 1 paar teenoorgst. sye ewewydig.
 - e) each pairs adjacent sides equal/ elke pare anngrensemde sye gelyk
 - f) quad. with both pairs opp. sides parallel./ vierhoek met albei pare teenoorstaande sye ewewydig

D.

- a) AB – diameter / middellyn
OB – radius / straal
BD – chord / koord
- b) OA, OP
- c) sector / sektor
- d) segment / segment
- e) circumference / omtrek
- f) arc / boog
- g) semi-circle / halwe sirkel
- h) Yes / Ja
- i) infinite / oneindige



E
2.
d) i) $\triangle ABC \equiv \triangle ADC$ | ii) $\triangle BAD \equiv \triangle BCD$

3.
i) $\triangle PQR \equiv \triangle RSP$ | ii) $\triangle SPQ \equiv \triangle QRS$

5.
a) ✓ | b) ✓ | c) ✓ | d) ✗

F.

- a) isosceles, right-angled/ gelykbenige, reghoekige
 - b) scalene, acute-angled/ ongelyksydige, skerphoekige
 - c) equilateral, acute-angled/ gelyksydige, skerphoekige

2.
c)
 $\hat{A}PB + \hat{B}PT = 180^\circ$ ($\hat{A}PT$ is a straight \angle)
($\hat{A}PT$ is 'n gestrekte \angle)

$$115^\circ + \hat{B}PT = 180^\circ$$

$$\hat{B}PT = 65^\circ$$

d)
 $\hat{P}TR + \text{Reflex } \angle = 360^\circ$ (revolution) (omwenteling)
 $54^\circ + \text{Reflex } \angle = 360^\circ$
 $\text{Reflex } \angle = 306^\circ$

e)
 $\hat{A}BD + \hat{D}BC = 90$ ($AB \perp BC$)
 $48^\circ + \hat{D}BC = 90^\circ$
 $\hat{D}BC = 42^\circ$

f)
i)
 $BD = CD$ (D is midpt of/van BC)
 $BD = 7 \therefore CD = 7$

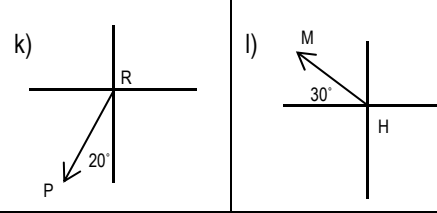
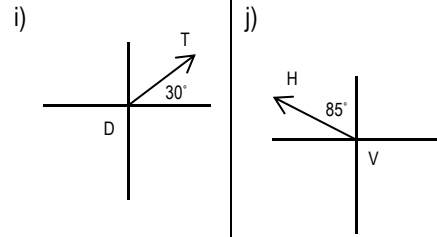
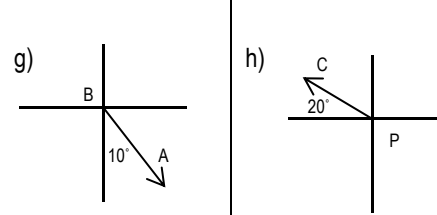
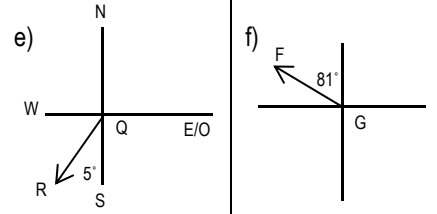
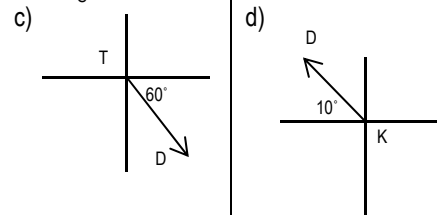
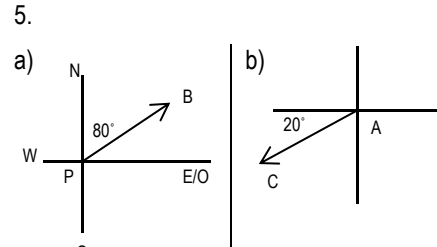
ii)
 $\hat{A}DM = \hat{B}AD$ (angles opp equal sides of \triangle)
(\angle e tenoor gelyke sye van \triangle)
 $= 55^\circ$

iii)
 $\hat{A}DB + \hat{A}DC = 180^\circ$
($\hat{B}DC$ is a straight angle / gestrekte hoek)
 $55^\circ + \hat{A}DC = 180^\circ$
 $\hat{A}DC = 125^\circ$

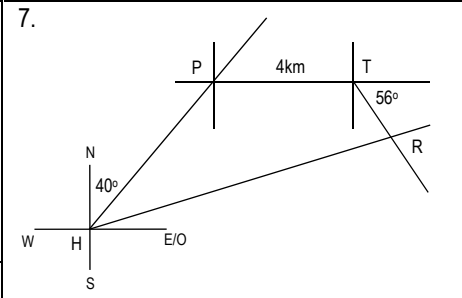
G.

- a) 20° South of East/ 20° Suid van Oos
 - b) 30° West of South/ 30° Wes van Suid
 - c) 30° West of North/ 30° Wes van Noord
 - d) 70° East of South/ 70° Oos van Suid
 - e) 60° North of West/ 60° Noord van Wes

4.
A lies 50° N of E, 40° N/
A lê 50° N van O, 40° N
B lies 10° W of N, 350° N/
B lê 10° W van N, 350° N
C lies 70° W of S, 250° N/
C lê 70° W van S, 250° N



6.
b) 10° N of E, 80° E of N, 80° N /
 10° N van O, 80° O van N, 80° N
c) 40° W of S, 50° S of W, 220° N /
 40° W van S, 50° S van W, 220° N
d) 30° W of N, 60° N of W, 300° N /
 30° W van N, 60° N van W, 300° N
e) 80° W of S, 10° S of W, 350° N /
 80° W van S, 10° S van W, 350° N



HR = 8,6 km
 17° N of E / 17° N van O.

Section 5 / Afdeling 5

- 1.1
- | | |
|------|------|
| a) ✗ | b) ✓ |
| c) ✓ | d) ✗ |
| e) ✓ | f) ✗ |
| g) ✗ | h) ✗ |
| i) ✓ | j) ✓ |
| k) ✓ | l) ✓ |

- 1.2
- the difference/ die verskil
 - the sum/ die som
 - the product/ die produk
 - the quotient/ die kwosient

- 1.3
- 31, 37, 41, 43, 47, 53, 59
 - 77, 84, 91, 98, 105, 112, 119
 - 1, 2, 3, 4, 6, 8, 12, 16, 24, 48
 - 2, 3
 - 6
 - 144
 - 36
 - 1

- 1.4
- $86 - 42 + 14 - 18 = 100 - 60 = 40$
 - $69 \times (100 - 1) = 6900 - 69 = 6831$
 - $\sqrt{100} = 10$
 - $8 + 6 = 14$
 - $76 \times 6 \times 4 = 456 \times 4 = 1824$ or/of
 $76 \times 8 \times 3 = 608 \times 3 = 1824$ or/of
 $76 \times 12 \times 2 = 912 \times 2 = 1824$
 - $4104 \div 6 \div 6 = 684 \div 6 = 114$ or/of
 $4104 \div 9 \div 4 = 456 \div 4 = 114$ or/of
 $4104 \div 12 \div 3 = 342 \div 3 = 114$



Term 2/ Kwartaal 2

Section 1 / Afdeling 1

A.

1.
a) $\frac{3}{5}$ b) $\frac{3}{15} = \frac{1}{5}$

2.
a) $\frac{3}{6} = \frac{1}{2}$ b) $\frac{6}{8} = \frac{3}{4}$
c) $\frac{7}{8}$

3.
a) i) $\frac{1}{2}$ ii) $\frac{1}{4}$
b) i) $\frac{3}{8}$ ii) $\frac{3}{8}$

4.
a) $\frac{1}{6}$ b) $\frac{9}{48} = \frac{3}{16}$
c) i) 4 ii) 3
iii) 10 iv) 9

5.
a)

1							
$\frac{1}{2}$				$\frac{1}{2}$			
$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$	
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$

b)

1								
$\frac{1}{3}$			$\frac{1}{3}$			$\frac{1}{3}$		
$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$
$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$

6.
a) i) $\frac{4}{8}$ ii) $\frac{2}{8}$ iii) $\frac{6}{8}$
b) $\frac{1}{2} < \frac{5}{8}$ c) $\frac{5}{8} < \frac{3}{4}$

7.
a) A: $\frac{1}{6}$ C: $\frac{1}{2}$ B: $\frac{5}{6}$
b) A: $\frac{1}{8}$ C: $\frac{1}{2}$ B: $\frac{3}{4}$
c) A: $\frac{1}{4}$ B: $\frac{1}{2}$ B: $\frac{3}{4}$
d) A: $\frac{2}{7}$ B: $\frac{5}{7}$
e) $\frac{1}{10} + \frac{2}{5} + \frac{1}{2} + \frac{4}{5} + 1 = 1\frac{11}{10}$
f) A: $\frac{3}{4}$ B: $\frac{7}{4}(1\frac{3}{4})$ C: $\frac{5}{2}(2\frac{1}{2})$
g) A: $\frac{2}{3}$ B: $\frac{5}{3}$ C: $\frac{7}{3}$

8.
a) i) numerator/ teller
ii) denominator/ noemer

b) i) proper/ egte
ii) improper/ onegte
c) i) mixed/ gemengde
ii) improper/ onegte $\frac{4}{4} + \frac{3}{4} = \frac{7}{4}$

10.
a) $\frac{4}{4}, \frac{7}{7}, \frac{10}{10}$
b) $\frac{2}{2}, \frac{4}{4}, \frac{5}{5}$
c) $\frac{3}{3}, \frac{5}{5}, \frac{3}{3}, \frac{3}{3}$
d) $\frac{3}{3}, \frac{5}{5}, \frac{3}{3}, \frac{6}{6}$

11.
Numerators/ Tellers
a) 4, 6, 8, 12, 14, 20, 40
b) 2, 3, 4, 5, 7, 8, 20
c) 12, 20, 24, 28, 32, 44, 48
d) 4, 8, 10, 12, 14, 18, 20
e) 15, 20, 25, 35, 40, 45, 50

12.
a) $\frac{6}{8}, \frac{9}{12}, \frac{15}{20}$ etc./ens.
b) $\frac{10}{25}, \frac{14}{35}, \frac{24}{60}$ etc./ens.
c) $\frac{8}{14}, \frac{12}{21}, \frac{16}{28}$ etc./ens.
d) $\frac{15}{40}, \frac{18}{48}, \frac{30}{80}$ etc./ens.

13.
a) > b) > c) < d) >

14.
a) $\frac{11}{16} > \frac{10}{16} > \frac{8}{16} \Rightarrow \frac{11}{16} > \frac{5}{8} > \frac{1}{2}$
b) $\frac{9}{12} > \frac{8}{12} > \frac{6}{12} \Rightarrow \frac{3}{4} > \frac{2}{3} > \frac{1}{2}$
c) $\frac{22}{30} > \frac{21}{30} > \frac{18}{30} \Rightarrow \frac{11}{15} > \frac{7}{10} > \frac{3}{5}$

16.
a) $\checkmark \frac{1}{2}$ b) $\checkmark \frac{1}{3}$ c) $\checkmark \frac{1}{4}$
d) \times e) $\checkmark \frac{2}{3}$ f) $\checkmark \frac{3}{4}$
g) $\checkmark \frac{3}{5}$ h) \times

17.
a) $\frac{1}{2}$ b) $\frac{1}{3}$ c) $\frac{1}{2}$
d) $\frac{1}{3}$ e) $\frac{3}{8}$ f) $\frac{2}{3}$
g) $\frac{3}{8}$ h) $\frac{2}{7}$ i) $\frac{5}{7}$
j) $\frac{3}{4}$ k) $\frac{2}{3}$ l) $\frac{3}{4}$

19.
a) 5 apples/ appels
b) 7 donkeys/ donkies
c) 2 apples + 4 bananas/ 2 appels + 4 piesangs
d) 3 donkeys + 4 sheep/ 3 donkies + 4 skape
e) 5 sevenths/ sewendes
f) 7 tenths/ tiendes
g) $\frac{2}{3}$ h) $\frac{3}{4}$
i) $\frac{2}{5}$ j) $\frac{6}{7}$
k) $\frac{5}{6}$ l) $\frac{9}{11}$

m) $\frac{11}{13}$ n) $\frac{13}{15}$
o) $\frac{13}{20}$ p) $\frac{9}{9} = 1$

20.
b) $\frac{2}{4} + \frac{1}{4} = \frac{3}{4}$ c) $\frac{2}{4} + \frac{3}{4} = \frac{5}{4}$
d) $\frac{3}{6} + \frac{1}{6} = \frac{4}{6} = \frac{2}{3}$ e) $\frac{4}{8} + \frac{3}{8} = \frac{7}{8}$
f) $\frac{3}{9} + \frac{2}{9} = \frac{5}{9}$ g) $\frac{6}{12} + \frac{5}{12} = \frac{11}{12}$
h) $\frac{4}{12} + \frac{7}{12} = \frac{11}{12}$ i) $\frac{3}{6} - \frac{1}{6} = \frac{2}{6} = \frac{1}{3}$
j) $\frac{4}{8} - \frac{3}{8} = \frac{1}{8}$ k) $\frac{2}{6} - \frac{1}{6} = \frac{1}{6}$
l) $\frac{6}{9} - \frac{1}{9} = \frac{5}{9}$ m) $\frac{6}{12} - \frac{5}{12} = \frac{1}{12}$
n) $\frac{4}{12} - \frac{1}{12} = \frac{3}{12} = \frac{1}{4}$ o) $\frac{7}{10} - \frac{6}{10} = \frac{1}{10}$
p) $\frac{3}{14} + \frac{6}{14} = \frac{9}{14}$ q) $\frac{5}{8} + \frac{10}{8} = \frac{15}{8}$
r) $\frac{14}{18} - \frac{7}{18} = \frac{7}{18}$

21.
b)
 $= \frac{5}{2} + \frac{11}{6}$ or / of $= 2 + 1 + \frac{1}{2} + \frac{5}{6}$
 $= \frac{15}{6} + \frac{11}{6}$ $= 3 + \frac{3}{6} + \frac{5}{6}$
 $= \frac{26}{6}$ $= 3 + \frac{8}{6}$
 $= 4\frac{1}{3}$ $= 3 + 1\frac{2}{6}$
 $= 4\frac{1}{3}$

c)
 $= \frac{9}{5} + \frac{23}{10}$ or / of $= 1 + 2 + \frac{4}{5} + \frac{3}{10}$
 $= \frac{18}{10} + \frac{23}{10}$ $= 3 + \frac{8}{10} + \frac{3}{10}$
 $= \frac{41}{10}$ $= 3 + \frac{11}{10}$
 $= 4\frac{1}{10}$ $= 3 + 1\frac{1}{10}$
 $= 4\frac{1}{10}$

d)
 $= \frac{19}{4} - \frac{19}{8}$ or / of $= 4 - 2 + \frac{3}{4} - \frac{3}{8}$
 $= \frac{38}{8} - \frac{19}{8}$ $= 2 + \frac{6}{8} - \frac{3}{8}$
 $= \frac{19}{8}$ $= 2\frac{3}{8}$
 $= 2\frac{3}{8}$

e)
 $= \frac{23}{6} - \frac{5}{3}$ or / of $= 3 - 1 + \frac{5}{6} - \frac{2}{3}$
 $= \frac{23}{6} - \frac{10}{6}$ $= 2 + \frac{5}{6} - \frac{4}{6}$
 $= \frac{13}{6}$ $= 2\frac{1}{6}$
 $= 2\frac{1}{6}$

f)
 $= \frac{21}{4} - \frac{7}{2}$ or / of $= 5 - 3 + \frac{1}{4} - \frac{1}{2}$
 $= \frac{21}{4} - \frac{14}{4}$ $= 4 - 3 + \frac{5}{4} - \frac{2}{4}$
 $= \frac{7}{4}$ $= 1\frac{3}{4}$
 $= 1\frac{3}{4}$

B.

2.
a) $\frac{5}{10} + \frac{2}{10} = \frac{7}{10}$ b) $\frac{5}{10} + \frac{4}{10} = \frac{9}{10}$
c) $\frac{5}{10} + \frac{6}{10} = \frac{11}{10}$ d) $\frac{5}{10} + \frac{8}{10} = \frac{13}{10}$
e) $\frac{3}{6} + \frac{2}{6} = \frac{5}{6}$ f) $\frac{4}{12} + \frac{3}{12} = \frac{7}{12}$



g) $\frac{5}{15} + \frac{3}{15} = \frac{8}{15}$

h) $\frac{3}{15} + \frac{10}{15} = \frac{13}{15}$

i) $\frac{4}{20} + \frac{5}{20} = \frac{9}{20}$

j) $\frac{12}{20} + \frac{5}{20} = \frac{17}{20}$

k) $\frac{8}{20} + \frac{15}{20} = \frac{23}{20}$

l) $\frac{8}{12} + \frac{9}{12} = \frac{17}{12}$

m) $\frac{6}{15} + \frac{10}{15} = \frac{16}{15}$

n) $\frac{21}{35} + \frac{15}{35} = \frac{36}{35}$

o) $\frac{28}{35} + \frac{20}{35} = \frac{48}{35}$

p) $\frac{10}{12} + \frac{3}{12} = \frac{13}{12}$

q) $\frac{12}{30} + \frac{25}{30} = \frac{37}{30}$

r) $\frac{9}{12} + \frac{10}{12} = \frac{19}{12}$

3.

a) $\frac{9}{12} - \frac{4}{12} = \frac{5}{12}$

b) $\frac{5}{15} - \frac{3}{15} = \frac{2}{15}$

c) $\frac{10}{15} - \frac{6}{15} = \frac{4}{15}$

d) $\frac{10}{12} - \frac{3}{12} = \frac{7}{12}$

e) $\frac{15}{24} - \frac{8}{24} = \frac{7}{24}$

f) $\frac{25}{40} - \frac{8}{40} = \frac{17}{40}$

g) $\frac{18}{21} + \frac{14}{21} = \frac{4}{21}$

h) $\frac{10}{12} - \frac{9}{12} = \frac{1}{12}$

4.

a) $\frac{5}{15} + \frac{3}{15} + \frac{2}{15} = \frac{10}{15} = \frac{2}{3}$

b) $\frac{3}{12} + \frac{10}{12} - \frac{6}{12} = \frac{7}{12}$

c) $\frac{6}{10} + \frac{7}{10} - \frac{5}{10} = \frac{8}{10} = \frac{4}{5}$

d) $\frac{9}{12} + \frac{6}{12} - \frac{10}{12} = \frac{5}{12}$

5.

a) i) 5	ii) 9	iii) 13	
b) i) 7	ii) 10	iii) 16	
c) i) 5	ii) 9	iii) 11	iv) 15
d) i) 6	ii) 9	iii) 12	iv) 18

6.

a) $\frac{3}{2}, \frac{4}{3}, \frac{5}{4}, \frac{6}{5}$

b) $\frac{5}{3}, \frac{7}{4}, \frac{7}{5}, \frac{11}{6}$

c) $\frac{5}{2}, \frac{7}{3}, \frac{9}{4}, \frac{13}{6}$

d) $\frac{8}{3}, \frac{11}{4}, \frac{13}{5}, \frac{18}{7}$

e) $\frac{7}{2}, \frac{10}{3}, \frac{13}{4}, \frac{16}{5}$

f) $\frac{11}{3}, \frac{15}{4}, \frac{19}{5}, \frac{23}{7}$

g) $\frac{28}{5}, \frac{53}{7}, \frac{69}{8}, \frac{88}{9}$

h) $\frac{61}{9}, \frac{77}{9}, \frac{106}{11}, \frac{89}{12}$

7.

a) 1, 2, 3, 5

b) 1, 2, 4, 7

c) 1, 2, 5, 9

d) 1, 3, 5, 8

9.

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

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

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

d) $4\frac{2}{3}, 4\frac{3}{4}, 4\frac{4}{5}, 4\frac{2}{7}$

10.

a) 7	b) 5	c) 7	d) 12
e) $3\frac{11}{25}$	f) $5\frac{10}{11}$	g) $1\frac{1}{2}$	h) $2\frac{2}{9}$

11.

d) $\frac{18}{4} = \frac{9}{2} = 4\frac{1}{2}$

e) $\frac{21}{6} = \frac{7}{2} = 3\frac{1}{2}$

f) $\frac{22}{8} = \frac{11}{4} = 2\frac{3}{4}$

g) $\frac{35}{10} = \frac{7}{2} = 3\frac{1}{2}$

h) $\frac{44}{14} = \frac{22}{7} = 3\frac{1}{7}$

i) $\frac{56}{16} = \frac{7}{2} = 3\frac{1}{2}$

j) $\frac{68}{16} = \frac{17}{4} = 4\frac{1}{4}$

k) $\frac{74}{16} = \frac{37}{8} = 4\frac{5}{8}$

l) $\frac{66}{18} = \frac{11}{3} = 3\frac{2}{3}$

m) $\frac{81}{18} = \frac{9}{2} = 4\frac{1}{2}$

n) $\frac{80}{25} = \frac{16}{5} = 3\frac{1}{5}$

o) $\frac{125}{30} = \frac{25}{6} = 4\frac{1}{6}$

13.

a) $\frac{1}{2} + \frac{7}{3} + \frac{5}{4}$
 $= \frac{6}{12} + \frac{28}{12} + \frac{15}{12}$
 $= \frac{49}{12}$
 $= 4\frac{1}{12}$

b) $\frac{11}{10} + \frac{4}{5}$
 $= \frac{11}{10} + \frac{8}{10}$
 $= \frac{19}{10}$
 $= 1\frac{9}{10}$

c) $\frac{9}{5} + \frac{11}{4}$
 $= \frac{36}{20} + \frac{55}{20}$
 $= \frac{91}{20}$
 $= 4\frac{11}{20}$

d) $\frac{7}{3} - \frac{11}{6}$
 $= \frac{14}{6} - \frac{11}{6}$
 $= \frac{3}{6}$
 $= \frac{1}{2}$

e) $\frac{9}{4} + \frac{17}{8}$
 $= \frac{18}{8} + \frac{17}{8}$
 $= \frac{35}{8}$
 $= 4\frac{3}{8}$

f) $\frac{10}{3} - \frac{9}{4} + \frac{17}{6}$
 $= \frac{40}{12} - \frac{27}{12} + \frac{34}{12}$
 $= \frac{47}{12}$
 $= 3\frac{11}{12}$

g) $\frac{18}{33} + \frac{4}{33} + \frac{22}{33}$
 $= \frac{44}{33}$
 $= \frac{4}{3}$
 $= 1\frac{1}{3}$

h) $\frac{5}{2} + \frac{10}{3} - \frac{17}{4}$
 $= \frac{30}{12} + \frac{40}{12} - \frac{51}{12}$
 $= \frac{19}{12}$
 $= 1\frac{7}{12}$

i) $\frac{17}{2} - \frac{9}{8} + \frac{9}{4}$
 $= \frac{68}{8} - \frac{9}{8} + \frac{18}{8}$
 $= \frac{77}{8}$
 $= 9\frac{5}{8}$

j) $\frac{7}{2} - \frac{3}{4} + \frac{17}{8}$
 $= \frac{28}{8} - \frac{6}{8} + \frac{17}{8}$
 $= \frac{39}{8}$
 $= 4\frac{7}{8}$

k) $\frac{31}{10} + \frac{7}{5} + \frac{3}{20}$
 $= \frac{62}{20} + \frac{28}{20} + \frac{3}{20}$
 $= \frac{93}{20}$
 $= 4\frac{13}{20}$

l) $\frac{13}{3} - \frac{13}{4}$
 $= \frac{52}{12} - \frac{39}{12}$
 $= \frac{13}{12}$
 $= 1\frac{1}{12}$

C.

P1

a) 1, 1, 1	b) 2, 3, 5	c) 3, 2, 2
d) 6, 5, 6	e) $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}$	f) $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}$
g) $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}$	h) $2\frac{1}{2}, 1\frac{2}{3}, 1\frac{1}{4}$	i) $3\frac{2}{3}, 2\frac{1}{5}, 1\frac{4}{7}$
j) $2\frac{2}{5}, 1\frac{5}{7}, 1\frac{1}{11}$	k) $2\frac{1}{7}, 1\frac{4}{11}, 1\frac{2}{13}$	l) $4\frac{1}{5}, 1\frac{10}{11}, 1\frac{8}{13}$

P2

1.

a) i) $\frac{8}{3} = 2\frac{2}{3}$

ii) $\frac{10}{3} = 3\frac{1}{3}$

iii) $\frac{14}{3} = 4\frac{2}{3}$

b) i) $\frac{4}{5}$

ii) $\frac{8}{5} = 1\frac{3}{5}$

iii) $\frac{14}{5} = 2\frac{4}{5}$

c) i) $\frac{9}{4} = 2\frac{1}{4}$

ii) $\frac{15}{4} = 3\frac{3}{4}$

iii) $\frac{21}{4} = 5\frac{1}{4}$

d) i) $\frac{12}{5} = 2\frac{2}{5}$

ii) $\frac{18}{5} = 3\frac{3}{5}$

iii) $\frac{33}{5} = 6\frac{3}{5}$

3.

a) 3	b) 4	c) 4	d) 14
3	5	10	24
5	4	6	9
6	5	18	15

P3

1.

a) $\frac{10}{3} \times 2 = \frac{20}{3} = 6\frac{2}{3}$

b) $\frac{7}{5} \times 3 = \frac{21}{5} = 4\frac{1}{5}$

c) $\frac{7}{2} \times 5 = \frac{35}{2} = 17\frac{1}{2}$

d) $\frac{16}{5} \times 2 = \frac{32}{5} = 6\frac{2}{5}$

e) $\frac{9}{4} \times 5 = \frac{45}{4} = 11\frac{1}{4}$

f) $\frac{5}{4} \times 3 = \frac{15}{4} = 3\frac{3}{4}$

g) $2 \times \frac{16}{3} = \frac{32}{3} = 10\frac{2}{3}$

h) $3 \times \frac{19}{8} = \frac{57}{8} = 7\frac{1}{8}$

i) $5 \times \frac{21}{2} = \frac{105}{2} = 52\frac{1}{2}$

j) $4 \times \frac{12}{5} = \frac{48}{5} = 9\frac{3}{5}$

k) $2 \times \frac{20}{3} = \frac{40}{3} = 13\frac{1}{3}$

l) $4 \times \frac{7}{5} = \frac{28}{5} = 5\frac{3}{5}$

m) $8^2 \times \frac{9}{8} = 18$

n) $4^1 \times \frac{25}{8} = \frac{25}{2} = 12\frac{1}{2}$

o) $8^1 \times \frac{16}{8} = 16$

p) $8^2 \times \frac{8}{8} = 16$

q) $\frac{31}{10} \times 5^1 = \frac{31}{2} = 15\frac{1}{2}$

r) $\frac{17}{8} \times 8^3 = 51$

P4

1.

a) $\frac{1}{6}, \frac{1}{3} \times \frac{1}{2} = \frac{1}{6}$

b)



$\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$



c)

$$\frac{1}{4} \times \frac{1}{3} = \frac{1}{12}$$

2.
a)

$$\frac{1}{3} \times \frac{1}{3} = \frac{1}{9}$$

b)

$$\frac{1}{4} \times \frac{1}{5} = \frac{1}{20}$$

- 3.
- | | | | |
|-------------------|-------------------|-------------------|-------------------|
| a) $\frac{1}{10}$ | b) $\frac{1}{15}$ | c) $\frac{1}{16}$ | d) $\frac{1}{28}$ |
| e) $\frac{1}{20}$ | f) $\frac{1}{24}$ | g) $\frac{1}{30}$ | h) $\frac{1}{45}$ |

- P5**
- 1.
- | | | | |
|-------------------|-------------------|-------------------|-------------------|
| a) $\frac{3}{20}$ | b) $\frac{7}{18}$ | c) $\frac{3}{10}$ | d) $\frac{5}{12}$ |
| e) $\frac{2}{15}$ | f) $\frac{4}{21}$ | g) $\frac{7}{33}$ | h) $\frac{5}{27}$ |
| i) $\frac{1}{3}$ | j) $\frac{1}{7}$ | k) $\frac{3}{11}$ | l) $\frac{4}{9}$ |
| m) $\frac{1}{4}$ | n) $\frac{2}{7}$ | o) $\frac{3}{11}$ | p) $\frac{4}{13}$ |
| q) $\frac{5}{24}$ | r) $\frac{3}{20}$ | s) $\frac{2}{15}$ | t) $\frac{2}{11}$ |

- P6**
- 1
- a) $\frac{5}{12} \times \frac{6^1}{7} = \frac{5}{14}$
- b) $\frac{5 \times 6^1}{12 \times 7} = \frac{5}{14}$
- c) $\frac{6^2}{3} \times \frac{7}{6} = \frac{14}{3} = 4\frac{2}{3}$
- d) $\frac{6^2 \times 7}{3 \times 6} = 4\frac{2}{3}$
- e) $\frac{14^7}{6} \times \frac{10^1}{12} = \frac{7}{3} = 2\frac{1}{3}$
- f) $\frac{14}{5} \times \frac{5}{6} = \frac{7}{3} = 2\frac{1}{3}$
- g) $\frac{9}{6} \times \frac{16^1}{12} = \frac{9}{4} = 2\frac{1}{4}$
- h) $\frac{9}{6} \times \frac{6^1}{4} = \frac{9}{4} = 2\frac{1}{4}$
- i) $\frac{7}{2} \times \frac{7}{4} = \frac{49}{8} = 6\frac{1}{8}$
- j) $\frac{17}{6} \times \frac{16^5}{4} = \frac{85}{4} = 21\frac{1}{4}$
- k) $\frac{6^1}{6} \times \frac{39^{13}}{6} = 13$
- l) $\frac{16^5}{6} \times \frac{20^5}{6} = \frac{25}{2} = 12\frac{1}{2}$

- 2.
- a) $\frac{2}{6} \times \frac{6^1}{6} \times \frac{6^1}{5} = \frac{2}{5}$
- b) $\frac{6^1}{6} \times \frac{6^1}{6} \times \frac{6^1}{6} = \frac{1}{2}$
- c) $\frac{1}{2} \times \frac{2^1}{2} \times \frac{2^1}{5} = \frac{1}{5}$
- d) $\frac{6^2}{6} \times \frac{1}{2} \times \frac{14^1}{6} = 2$
- e) $\frac{6^2}{6} \times \frac{20^4}{6} \times \frac{16^5}{6} = 40$
- f) $\frac{6^3}{6} \times \frac{20^1}{6} \times \frac{1}{6} = 1\frac{1}{2}$
- g) $\frac{6^1}{6} \times \frac{2}{5} \times \frac{26^2}{6} = \frac{4}{15}$
- h) $\frac{6^1}{6} \times \frac{22^1}{6} \times \frac{6^1}{6} = 1$
- i) $\frac{7^1}{6} \times \frac{6^3}{6} \times \frac{6^1}{6} = 1\frac{1}{2}$
- j) $\frac{6^3}{6} \times \frac{6^2}{6} \times \frac{1}{6} = 2$
- k) $\frac{27^3}{6} \times \frac{6^1}{6} \times \frac{11}{12} = \frac{33}{4} = 8\frac{1}{4}$
- l) $\frac{6^1}{6} \times \frac{6^1}{6} \times \frac{7^1}{6} \times \frac{12^1}{6} = 1$

- D.**
- 2.
- b) $\frac{2}{6} \times \frac{6^3}{5} = \frac{6}{5} = 1\frac{1}{5}$
- c) $\frac{3}{6} \times \frac{6^2}{5} = \frac{6}{5} = 1\frac{1}{5}$
- d) $\frac{1}{6} \times \frac{6^1}{6} \times \frac{2^1}{5} = \frac{1}{10}$
- e) $\frac{6^1}{12} \times \frac{6^1}{12} = \frac{1}{8}$
- f) $\frac{6^1}{6} \times \frac{1}{6} \times \frac{10^1}{3} = \frac{1}{3}$
- g) $\frac{2^1}{3} \times \frac{1}{5} \times \frac{1}{2} = \frac{1}{15}$

- 4.
- | | |
|---|--|
| <p>a)</p> $\left(\frac{1}{4} + \frac{2}{4}\right) \times \frac{1}{3}$ $= \frac{3}{4} \times \frac{1}{3}$ $= \frac{1}{4}$ <p>c)</p> $\frac{2}{3} + \frac{3}{4} \times \frac{2}{1} - \frac{1}{2}$ $= \frac{2}{3} + \frac{3}{2} - \frac{1}{2}$ $= \frac{10}{6}$ $= 1\frac{2}{3}$ | <p>b)</p> $\frac{1}{4} + \frac{1}{6}$ $= \frac{3}{12} + \frac{2}{12}$ $= \frac{5}{12}$ <p>d)</p> $\frac{2}{3} + \frac{3}{4} \times \frac{3}{2}$ $= \frac{2}{3} + \frac{9}{8}$ $= \frac{16}{24} + \frac{27}{24}$ $= 1\frac{19}{24}$ |
|---|--|

- 7.
- a) $\frac{1}{6} \times \frac{6^1}{5} + \frac{2}{3} = \frac{1}{5} + \frac{2}{3} = \frac{3}{15} + \frac{10}{15} = \frac{13}{15}$
- b) $\frac{6^1}{4} \times \frac{1}{6} - \frac{1}{4} = \frac{1}{4} - \frac{1}{4} = 0$
- c) $2\frac{3}{7} - 1 = 1\frac{3}{7}$
- d) $\frac{2^1}{3} \times \frac{5}{2} = 1\frac{2}{3}$
- e) $\frac{6^1}{6} \times \frac{6^1}{6} + \frac{11}{5} = 1 + 2\frac{1}{5} = 3\frac{1}{5}$
- f) $\frac{1}{3} \times \frac{5}{6} + \frac{6^1}{6} \times \frac{2^1}{6} = \frac{5}{18} + \frac{1}{2} = \frac{14}{18} = \frac{7}{9}$
- g)
- $$\frac{4}{3} + \left(\frac{1}{3} - \frac{1}{4}\right)$$
- $$= \frac{4}{3} + \left(\frac{4}{12} - \frac{3}{12}\right)$$
- $$= \frac{16}{12} + \frac{1}{12}$$
- $$= \frac{17}{12}$$
- $$= 1\frac{5}{12}$$

- h)
- $$\frac{6}{3} \times \frac{3^1}{8} \times 4 - 2$$
- $$= 3 - 2$$
- $$= 1$$

- E.**
- 1.
- | | |
|---|--|
| a) $\frac{1}{6} \times R66^{22} = R22$ | b) $\frac{1}{4} \times 148^{37} g = 37g$ |
| c) $\frac{1}{6} \times 145^{29} l = 29l$ | d) $\frac{3}{6} \times 36^9 kg = 27kg$ |
| e) $\frac{5}{6} \times 426^{71} g = 355g$ | f) $\frac{4}{6} \times 65^{13} l = 52l$ |
| g) $\frac{3}{6} \times 1284^{321} m = \frac{926}{2} m = 481\frac{1}{2} m$ | |
| h) $\frac{5}{6} \times 282^{47} km = 235km$ | |

- 2.
- b) $\frac{1}{6} \times 90^{30} \text{ min} = 30 \text{ min}$
- c) $\frac{3}{7} \times 84^{12} \text{ min} = 36 \text{ min}$
- d) $\frac{3}{6} \times 3040^{760} \text{ m l} = 2280 \text{ m l} = 2 \text{ l } 280 \text{ m l}$
- e) $\frac{4}{6} \times 3020^{604} g = 2416 \text{ kg} = 2 \text{ kg } 416 \text{ g}$
- f) $\frac{3}{10} \times 465^{93} \text{ cm} = \frac{279}{2} \text{ cm} = 139\frac{1}{2} \text{ cm}$
- $$= 1 \text{ m } 39\frac{1}{2} \text{ cm}$$

- 4) Fraction/ Breuk:
- | | |
|---|---|
| a) $\frac{25c}{400c} = \frac{5}{80} = \frac{1}{16}$ | b) $\frac{115^{23}c}{1380^{276}c} = \frac{1}{12}$ |
| c) $\frac{55}{2000} = \frac{11}{400}$ | d) $\frac{30cm}{240cm} = \frac{1}{8}$ |
| e) $\frac{375l}{1000l} = \frac{3}{8}$ | f) $\frac{5 \text{ min}}{190 \text{ min}} = \frac{1}{38}$ |
| g) $\frac{18 \text{ mg}}{1440 \text{ mg}} = \frac{3}{240} = \frac{1}{80}$ | h) $\frac{9m}{9 \times 12m} = \frac{1}{12}$ |
| i) $\frac{146d+73}{365d+73} = \frac{2}{5}$ | |

- 5.
- a) i) R3,20
ii) R28,80
- b) i) R2,28
ii) R15,96
- c) i) R7,40
ii) R7,40 + R3,70 = R11,10
- d) i) R4,80 × 2 = R9,60
ii) R9,60 × 4 = R38,40
- e) i) R2,66 × 2 = R5,32
ii) R5,32 × 3 = R15,96
- f) i) R36 ÷ 3 = R12
ii) R12 × 5 = R60

- 6.
- a) i) 2,6 5km = 13km
ii) 3,25km
- b) i) 3648 × 4m = 14 592m
ii) 4864m
- c) i) 465,9 × 3m = 1397,7m
ii) 279,54m
- d) i) 143,7 × 8km = 1149,6km
ii) 127,73km

7.
a)i) R5 ii) R15 b)i) 10g ii) 20 g
c)i) 9cm³ ii) 27cm³ d)i) R16 ii) R128

8.
a) $\frac{5}{8}$ amount / bedrag = R5,60 b) $\frac{2}{5}$ mass / massa = 20kg
 $\frac{1}{8}$ amount / bedrag = R1,12 $\frac{1}{5}$ mass / massa = 10kg
 $\frac{8}{8}$ amount / bedrag = R8,96 $\frac{5}{5}$ mass / massa = 50kg

9.
a) No. marbles/ Aantal albasters
= $\frac{2}{7} \times 63^9 = 18$
b) Distance/ Afstand
= $\frac{25}{2} \times 14^7 = 175km$
c) No. children/ Aantal kinders
= $\frac{3}{8} \times 240^{48} = 144$
d) Fraction/ Breukdeel = $\frac{2}{3} \times \frac{1}{2} = \frac{1}{3}$

10.
a) $\frac{1}{2} \times_{rem} / res = \frac{1}{2} \times \frac{5}{8} = \frac{5}{16}$
Fraction sold/ Breukdeel verkoop
= $\frac{3}{8} + \frac{5}{16} + \frac{6+5}{16} = \frac{11}{16}$
b) $\frac{1}{2} \times_{rem} / res = \frac{1}{2} \times \frac{4}{9} = \frac{2}{9}$
Fraction left/ Breukdeel oor
= $1 - (\frac{5}{9} + \frac{2}{9}) = \frac{2}{9}$
c)i) $\frac{3}{8}$
ii) Fraction play/ Breukdeel speel
= $\frac{3}{5} \times \frac{5}{8} = \frac{3}{8}$
Fraction not soccer/ Breukdeel nie sokker
= $\frac{5}{8}$
d) Time spent/ Tydsduur gebruik
= 45 + 35 + 40min
= 120 min
Time soccer/ Tydsduur sokker
= 1h
Fraction/ Breukdeel
= $\frac{1h}{3h} = \frac{1}{3}$

11.
a) Fraction present/ Breukdeel teenw.
= $\frac{35}{40} = \frac{7}{8}$
b) Fraction boys/ Breukdeel seuns
= $\frac{15}{40} = \frac{3}{8}$
10 of 15 boys < 14 years /
10 uit 15 seuns < 14 jare
c) Fraction/ Breukdeel
= $\frac{10}{15} = \frac{2}{3}$
d) No. not by car/ Aantal nie per motorcar
= 12 + 24
Fraction/ Breukdeel
= $\frac{36}{40} = \frac{9}{10}$

Section 2 / Afdeling 2

- A.**
1.
a) $\frac{1}{10} + \frac{1}{100} + \frac{1}{1000}$
b) 0,59
c) 17,603
d) $4 \times 10^3 + 3 \times 10^2 + 2 \times 10 + 5 + \frac{6}{10} + \frac{7}{100}$
e) i) 10 times/maal
ii) 1000 times/maal

2.
a) > b) < c) =
d) < e) < f) >

3.
a) $\frac{2}{10} = \frac{1}{5}, \frac{5}{10} = \frac{1}{2}, \frac{8}{10} = \frac{4}{5}$
b) $\frac{5}{100} = \frac{1}{20}, \frac{15}{100} = \frac{3}{20}, \frac{45}{100} = \frac{9}{20}$
c) $\frac{2}{100} = \frac{1}{50}, \frac{6}{100} = \frac{3}{50}, \frac{44}{100} = \frac{11}{25}$

4.
a) 10 b) 100 c) 100
d) 100 e) 1000 f) 1000

5.
c) $\frac{2}{10} = 0,2$ d) $\frac{8}{10} = 0,8$ e) $\frac{2}{100} = 0,02$
f) $\frac{14}{100} = 0,14$ g) $\frac{15}{100} = 0,15$ h) $\frac{35}{100} = 0,35$
i) $\frac{4}{100} = 0,04$ j) $\frac{28}{100} = 0,28$

6.
a) 0,6 0,9 1,5
b) 0,57 0,68 1,82
c) 5,31 14,23 17,42
d) 0,5 0,3 0,6
0,6 0,92
e) 0,34 1,26 0,27
1,94 0,86
f) 0,48 1,19 4,27
8,66 1,65

7.
a) 4,1 ; 4,5 ; 4,9
b) 1,01 ; 1,07 ; 1,13
c) 6,01 ; 6,11 ; 6,21
d) 1,655 ; 1,662 ; 1,669
e) 7,11 ; 7,01 ; 6,91
f) 0,99 ; 0,93 ; 0,87

8.
a) 10 b) 10 c) 100
d) 1000 e) 1000 f) 10000

9.
a) 6; 72; 34,6; 8,16
b) 60; 53; 821; 1206,3
c) 600; 9; 37; 5180
d) 180; 3070; 0,54
e) 40; 6,1; 76
f) 0,06; 0,74; 9,03

- B.**
1.
a) units/ ene
b) hundredth/ honderdste
c) tens/ tiene
d) tenth/ tiende
e) thousand/ duisende
f) thousandth/ duisendste

2.
a) 305,2 & $\frac{3052}{10}$
b) 7,3 & $\frac{73}{10}$
c) 6240,073 & $\frac{6240073}{1000}$
d) 0,087 & $\frac{87}{1000}$
e) 1209,601 & $\frac{1209601}{1000}$

	Th	H	T	U	t	h	th
	D	H	T	E	t	h	d
f)			9	0	4	6	7
g)				1	1	0	3
h)	7	0	1	4	3	6	
i)			5	4	7		
j)			1	0	8	3	

3.
a) > b) < c) =
d) > e) > f) <

4.
a) $\frac{1037}{1000}$ b) $\frac{4831}{1000}$
c) $\frac{19717}{1000}$ d) $\frac{803803}{1000}$

5.
a) 4,019
b) 18,173
c) $1\frac{29}{250} (\times \frac{4}{4}) = 1\frac{116}{1000} = 1,116$
d) $2\frac{47}{250} = 2\frac{188}{1000} = 2,188$
e) $23\frac{238}{1000} = 23,238$
f) $7\frac{13}{125} (\times \frac{8}{8}) = 7\frac{104}{1000} = 7,104$
g) $45\frac{21}{125} (\times \frac{8}{8}) = 45\frac{168}{1000} = 45,168$
h) $462\frac{648}{1000} = 462,648$

7.
a) 0,6 b) 0,16 c) 0,83
d) 0,1 e) 0,4 f) 0,5
g) 0,083 h) 0,583 i) 0,09
j) 0,45 k) 0,142857 l) 0,428571

9.
a) $\frac{1}{10}$ or / of 0,1 b) $\frac{1}{100}$ or / of 0,01
c) $\frac{1}{100}$ or / of 0,01 d) $\frac{1}{1000}$ or / of 0,001



10. a) 0,1 b) 0,01 c) 0,001 d) 0,01 e) 0,001	6. b) $83 \times 17 = + 124 =$ 1535 c) $27 \times 23 = +/- + 843 =$ 222 d) $14 \times 63 = +/- + 1426 =$ 544 e) $67 \times 35 = + 2013 =$ 4358 f) $459 \div 17 = +/- 144 =$ 117	4. a) 99,817 b) 14,78 c) 7,777 d) 28,866 e) 0,32 f) 1,779
11. a) 4,1 , 4,2 , 4,3 , 4,5 , 4,6 , 4,7 , 4,9 b) 0,01 , 0,03 , 0,04 , 0,05 , 0,06 , 0,08 , 0,09 c) 1,61 , 1,62 , 1,63 , 1,64 , 1,66 , 1,67 , 1,68 , 1,69 d) 0,021 , 0,022 , 0,023 , 0,024 , 0,025 , 0,027 , 0,028 , 0,029	8. a) 16 b) 1	5. a) 5 b) 2 c) 1 d) 0,2 e) 0,1 f) 0,05 g) 3 h) 0
12. a) 3,12, 3,15, 3,19 b) 1,29, 1,34, 1,38 c) 5,9, 5,97, 5,99	9. a) 157 b) 126 c) 2508 d) 10 e) 34780 f) 39 g) 37 h) 42	F. 1. a) 14 1,4 0,14 0,014 114 b) 30 3 0,3 0,03 30,3 c) 300 30 0,3 46230 301,3 × 10:10 times bigger/ 10 maal groter × 100:100 times bigger/ 100 maal groter × 1000:1000 times bigger/ 1000 maal groter
13. a) 3,3 m, 3,75 m b) 19ℓ, 23,5 ℓ c) 4,4kg, 4,7kg d) 4,6g, 5,5g e) 0,034m, 0,0365m f) 12g, 35g g) 250, 2000, 3500 h) 2500, 8750 (7500 + 1250) i) 0,036, 0,084 (+0,004)	10. a) 341 b) 211 c) 5,6 d) 1 e) 504 f) 94,6	2. a) 0,3 0,03 0,003 0,0003 3 b) 0,03 0,003 0,0003 0,00003 0,3 c) 0,3 0,03 0,003 0,0003 0,00003 10 times, 100 times, 1000 times smaller/ 10 maal, 100 maal, 1000 maal kleiner
C. 1. a) switch on/ delete/ skakel aan/ wisuit b) delete last number keyed in / wis laaste getal ingesleutel, uit c) moves answer to display window i.e. calculator answer/ plaas antwoord op skerm d) adds number to one in memory/ tel getal by een wat in geheue is, by e) subtracts number from one in memory/ trek getal af van een wat in geheue is f) erases number(s) in memory/ maak die geheue leeg (skoon) g) moves number from memory into the display window i.e. recalls number/ skuif die getal in geheue na skerm dws herroep (recalls) geheue h) changes number sign/ verander getal se teken i) square root key/ vierkantswortel teken	D. 1. b) 1,4 ; 1,5 ; 1,5 c) 1,43 ; 1,44 ; 1,44 d) i) 3000 ii) 2700 iii) 2670 iv) 2673 v) 2672,5 vi) 2672,54 e) i) 4000, 4200, 4170, 4174, 4174,3 ii) 1000, 900, 850, 852, 852,1 iii) 10 000, 9900, 9860, 9865, 9864,6 iv) 16 000, 15 600, 15 640, 15 637, 15 637,5 v) 1000, 500, 510, 511, 511,0 f) i) 300, 276, 276,1, 276,14, 276,143 ii) 100, 52, 51,5 , 51,53 , 51,532 iii) 400, 392, 391,8 , 391,77 , 391,768 iv) 4400, 4388, 4387,5 , 4387,52 , 4387,524	3. a) 3,516 351,6 0,107 10,7 b) 1,913 19130 0,0056 56 c) 0,0021 2100 0,0357 35700
3. a) 19, 38, 57, 76, 95 b) 23, 46, 69, 92, 115, 138, 161 c) 149, 166, 183, 200, 217, 234 d) 437, 423, 409, 395, 381, 367, 353, 339, 325, 311, 297 e) 391, 365, 339, 313, 287, 261, 235, 209, 183, 157, 131	2. b) i) 19,4 ii) 34,93 iii) 0,874 iv) 8,0 v) 506,40	5. a) 0,7 0,6 1,2 0,8 2,8 b) 0,06 0,06 0,08 0,12 0,35 c) 0,06 0,08 0,006 0,008 0,0006
4. a) 400 b) 10 c) 1400 d) 5000 e) 5000 f) 12000	3. a) i) 4675,18 ii) 4675,2 iii) 4680 ii) 6000 b) i) 6328,60 iv) 6328,6 iii) 6328,598 ii) 6100 v) 6330 iv) 6000 c) i) 6054,99 ii) 6100 iii) 6055,0 iv) 6000 v) 6054,994	6. a) 0,08, 0,18, 0,18 0,20 b) 0,004 0,006 0,016 0,042 c) 0,0002 0,0008 0,0018 0,0032
	E. 1. a) 5 0,5 b) 31 0,31 c) 162 0,162	7. a) 0,22 0,72 0,84 0,91 b) 0,099 1,32 0,192 0,075 c) 0,0096 0,312 0,0192 0,0488
	2. a) 1,7 b) 0,16 c) 0,018 d) 6,1 e) 14,41 f) 4,83 g) 12,957 h) 5,221	9. a) $143 \times 2 = 286$ b) $834 \times 3 = 2502$ c) $3026 \times 7 = 21182$ d) $1234 \times 9 = 11106$ e) $760 \times 3 = 2280$ f) $2450 \times 5 = 12250$ g) $2700 \times 2 = 5400$ h) $34260 \times 7 = 239820$
	3. a) 0,5 b) 0,01 c) 0,003 d) 2,11 e) 31,952 f) 3,889 g) 0,089 h) 3,86	10. a) $450 \times 2 = 900$ b) $0,7 \times 5 = 3,5$ c) $300,7 \times 9 = 2706,3$ d) $215 \times 3 = 645$ e) $120 \times 4 = 480$ f) $8,1 \times 3 = 24,3$
		11. c) $28 \times 17 = 476 \Rightarrow 0,28 \times 1,7 = 0,476$ d) $236 \times 51 = 12036 \Rightarrow 23,6 \times 5,1 = 120,36$ e) $33 \times 25 = 825 \Rightarrow 0,33 \times 2,5 = 0,825$ f) $809 \times 67 = 54203 \Rightarrow 8,09 \times 6,7 = 54,203$



G.

1.

a) 0,7 0,07 0,007	b) 0,07 0,007 0,0007	c) 0,562 0,0562 0,0739	d) 0,01364 0,1364 0,0046
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2.

b) 0,4 0,4	c) 0,03 0,09	d) 0,017 0,006	e) 0,04 0,09
f) 0,001 0,09	g) 0,003 0,008	h) 1,24 3,585	i) 0,43 0,23

- 3.
- b)i) $\frac{0,436}{2} = 0,218$
 - ii) $\frac{1,024}{4} = 0,256$
 - iii) $\frac{13,11}{3} = 4,37$
 - iv) $\frac{0,0981}{3} = 0,0327$
 - v) $\frac{1,428}{2} = 0,714$
 - vi) $\frac{0,1528}{8} = 0,0191$
 - vii) $\frac{0,00834}{2} = 0,00417$
 - viii) $\frac{0,01716}{3} = 0,00572$
 - ix) $\frac{0,5328}{6} = 0,0888$
 - x) $\frac{0,1456}{7} = 0,0208$
 - xi) $\frac{0,308}{4} = 0,077$
 - xii) $\frac{0,0308}{4} = 0,0077$
 - c)i) $\frac{0,808}{2} = 0,404$
 - ii) $\frac{0,6018}{3} = 0,2006$
 - iii) $\frac{0,9115}{5} = 0,1823$
 - iv) $80,8 \times 2 = 161,6$
 - v) $60,18 \times 3 = 180,54$
 - vi) $91,15 \times 5 = 455,75$
 - vii) $\frac{0,0976}{2} = 0,0488$
 - viii) $\frac{4,362}{3} = 1,454$
 - ix) $\frac{0,00548}{4} = 0,00137$
 - x) $976 \times 2 = 1952$
 - xi) $43620 \times 3 = 130860$
 - xii) $54,8 \times 4 = 219,2$

4.

a) 13	b) 91,2
c) 0,029	d) 3,65
e) 0,8	f) 0,07
g) 0,414	h) 11,2

H.

1.

a) m	b) kg	c) ℓ	d) cm ²
e) 1000	iii) 100	iv) $\frac{1}{100}$	v) $\frac{1}{1000}$
f) 1000	100	1000	10
g) 1000	100	1000	10
h) 1000	1000	10 ⁶	
i) 100	10000	10 ⁶	

2.

a) $\times 100$	$\times 1000$	$\times 10$	
b) $\div 1000$	$\div 100$	$\div 10$	
c) $\times 1000$	$\times 1000$	$\times 1000$	$\times 1000$
d) $\div 1000$	$\div 1000$	$\div 1000$	$\div 1000$

3.

a)	b)	c)
7600m	6cm	17400g
34m	4180cm	1030g
12700mm	1204cm	26900mg
5070mm	469mm	70mg
d)	e)	f)
6000 ℓ	0,263km	6,76m
28300 ℓ	6,435km	0,279m
41700mℓ	0,0143m	678,2cm
1050mℓ	0,5276m	0,149cm
g)	h)	
0,561kg	0,033kℓ	
0,0884kg	4,738kℓ	
6,604g	0,8781ℓ	

4.1
Mass/Massa
= $1,3 + 0,432 + 2,028$ kg
= 3,76 kg
≈ 4 kg

4.2
Cost/Koste
= $R31,95 \times 8 = R255,60$

4.3
Mass/Massa
= $114,5 \times 7$ kg = 801,5 kg

4.4
Price/m / Prys/m
= $\frac{11220c}{60} = 187c = R1,87$

4.5
Cost/ Koste
= $R \frac{R573,60}{40} = \frac{57,36}{4} = R14,34$
Cost of 12/ Koste van 12
= $R14,34 \times 12 = R172,08$

4.6
Mass left/ Massa oor
= $10 - (1,5 + 2,375 + 4,8)$ kg
= $10 - 8,675$ kg
= 1,325 kg
= 1325 g

4.7
Total mass/ Totale massa
= $3 \times 31,7 + 4 \times 42,5$ kg
= $95,1 + 170,0$ kg
= 265,1 kg

4.8
Mass of 12/ Massa van 12
= $11,3 \times 12$ kg = 135,6kg
Mass of 30/Massa van 30
= $11,3 \times 30$ kg = 113×3 kg = 339 kg

4.9
Mass of 1/ Massa van 1
= $\frac{828}{900}$ kg = $\frac{8,28}{9}$ kg = 0,92kg = 920g

4.10
Cost of 1 kg/ Koste van 1 kg
= $\frac{3680c}{1,6} = 2300c = R23,00 / kg$

4.11
Cost of 1 / Koste van 1
= $\frac{R5264}{200} = \frac{R52,64}{2} = R26,32$

4.12
1 share/ 1 deel
= $\frac{R306,40}{20} = \frac{R30,64}{2} = R15,32$

4.13
Length/ Lengte
= $\frac{875m}{1250} = \frac{7}{10} m = 0,7m$

4.14
Rem/ Res
= $12 - (2,5 + 0,8 + 0,74)m$
= $12 - 4,04m$
= 7,96m

Section 3 / Afdeling 3

A.

2.

	b) 0,2	c) 0,4
d) 0,6	e) 0,25	f) 0,5
g) 0,75	h) 0,15	i) 0,45
j) 0,19	k) 0,57	l) 1,31

3.

a)	b)	c)
$\frac{70}{100} = 70\%$	$\frac{4}{100} = 4\%$	$\frac{60}{100} = 60\%$
$\frac{110}{100} = 110\%$	$\frac{28}{100} = 28\%$	$\frac{80}{100} = 80\%$
$\frac{5}{100} = 5\%$	$\frac{52}{100} = 52\%$	$\frac{100}{100} = 100\%$
$\frac{45}{100} = 45\%$	$\frac{50}{100} = 50\%$	$\frac{40}{100} = 40\%$
$\frac{85}{100} = 85\%$	$\frac{25}{100} = 25\%$	$\frac{140}{100} = 140\%$
	$\frac{75}{100} = 75\%$	$\frac{150}{100} = 150\%$

5.

a) $37\frac{1}{2}\%$ ($\times 3$)	ii) $62\frac{1}{2}\%$ ($\times 5$)	iii) $87\frac{1}{2}\%$ ($\times 7$)
b) $66\frac{2}{3}\%$ ($\times 2$)	ii) $133\frac{1}{3}\%$ ($\times 4$)	
c) $16\frac{2}{3}\%$ ($\div 2$)	ii) $83\frac{1}{3}\%$ ($16\frac{2}{3} \times 5$)	iii) $116\frac{2}{3}\%$ ($16\frac{2}{3} \times 7$)



6.

Fraction/ Breuk	Dec fraction/ Des breuk	%
a) $\frac{1}{2}$	0,5	50%
b) $\frac{1}{4}$	0,25	25%
c) $\frac{3}{4}$	0,75	75%
d) $\frac{1}{5}$	0,2	20%
e) $\frac{3}{5}$	0,6	60%
f) $\frac{2}{5}$	0,4	40%
g) $\frac{1}{8}$	0,125	12,5%
h) $\frac{3}{8}$	0,375	37,5%
i) $\frac{5}{8}$	0,625	62,5%
j) $\frac{1}{3}$	0,3	33 $\frac{1}{3}$ %
k) $\frac{2}{3}$	0,6	66 $\frac{2}{3}$ %
l) $\frac{7}{8}$	0,875	87 $\frac{1}{2}$ %
m) $\frac{5}{4}$	1,25	125%

7.

- c) $\frac{1}{10} \times 145 = 14,5$
 d) $\frac{1}{4} \times 368 = 92$
 e) $\frac{2}{5} \times 475 = 190$ (2×95)
 f) $\frac{1}{5} \times 560m = 112m$
 g) $\frac{3}{4} \times 420g = 315g$ (3×105)
 h) $\frac{3}{5} \times R2300 = R1380$ (3×460)
 i) $\frac{32}{100} \times R750 = R8 \times 30 = R240$
 j) $\frac{1}{3} \times 69 = 23$
 k) $\frac{1}{8} \times R152 = R19$
 l) $\frac{2}{3} \times 54,6m = 36,4m$ ($2 \times 18,2$)
 m) $\frac{5}{8} \times 432kg = 270kg$ (5×54)
 n) $\frac{3}{8} \times 221,6\ell = 83,1\ell$ ($3 \times 27,7$)

8.

- b) $\frac{45}{75} = \frac{3}{5} = 60\%$
 c) $\frac{126}{150} = \frac{42}{50} = \frac{84}{100} = 84\%$
 d) $\frac{12,5}{200} = \frac{6,25}{100} = 6,25\%$
 e) $\frac{40}{160} = \frac{1}{4} = 25\%$
 f) $\frac{3780}{47250} = \frac{42}{525} = \frac{6}{75} = \frac{2}{25} = \frac{8}{100} = 8\%$

9.

- b) $\frac{3}{4} = 75\%$ & $\frac{2}{3} = 66\frac{2}{3}\%$
 Bigger/Groter % = 3 out of/ uit 4

c)

$$\frac{16^1}{96^1} = 16\frac{2}{3}\%$$

$$\& \frac{2\cancel{0}}{3 \cancel{15} \cancel{0}} \times 100^{20}\% = 13\frac{1}{3}\%$$

Bigger/Groter % = R16 on /op R96

$$d) \frac{1^1}{44^4} = 25\% \& \frac{16^2}{80^{10}} = \frac{1}{5} = 20\%$$

Bigger/Groter % = R11 on/op R44

10.

b) %incr/verm = $\frac{30\ell}{120\ell} = \frac{1}{4} = 25\%$

c) %incr/verm = $\frac{20}{30} = \frac{40}{100} = 40\%$

11.

b) % decr/verm = $\frac{2,5kg}{12,5kg} = \frac{25}{125} = 20\%$

c) % decr/verm = $\frac{R240}{R600} = \frac{2}{5} = 40\%$

12.

b) 135% of/van 25\ell
 $= \frac{135}{100} \times 25\ell$
 $= 33\frac{3}{4}\ell$

c) 137 $\frac{1}{2}$ % of/van R20
 $= \frac{137,5}{100} \times R20$
 $= R27,50$

d) 70% of/van 120g
 $= \frac{7}{10} \times 120g$
 $= 84g$

e) 80% of/van 225km
 $= \frac{4}{5} \times 225km$
 $= 180km$

13.

b) 119,4% of/van R2070
 $= \frac{119,4}{100} \times R2070$
 $= R2471,58$

c) 107,8% of/van 748kg
 $= \frac{107,8}{100} \times 748kg$
 $= 806,344kg$
 $= 806344g$

d) 81,8% of/van R685
 $= \frac{81,8}{100} \times R685$
 $= R560,33$

e) $100\% - 1,75\% = 98,25\%$
 98,25% of/van R186
 $= \frac{98,25}{100} \times R186$
 $= R182,75$ to nearest cent/
 tot naaste sent

15.

a) $\frac{3}{10}$ no. / getal = 36
 \Rightarrow no. / getal = $36 \times \frac{10}{3}$
 $= 120$

or / of

$$\frac{1}{10}$$
 no. / getal = 12

$$\frac{10}{10}$$
 no. / getal = 120

b)

$$\frac{45^3}{100^{20}}$$
 mass / massa = 84,6g

$$\Rightarrow$$
 mass / massa = $84,6 \times \frac{20}{9}g$

= 188g

or / of

$$\frac{1}{20}$$
 mass / massa = 9,4g

$$\frac{20}{20}$$
 mass / massa = $9,4g \times 20$

= 188g

c)

$$\frac{3}{4}$$
 amt. / bedrag = R7,56

$$\Rightarrow$$
 amt. / bedrag = $R7,56^{2,52} \times \frac{4}{3,1}$

= R10,08

or / of

$$\frac{1}{4}$$
 amt. / bedrag = R2,52

$$\frac{4}{4}$$
 amt. / bedrag = R10,08

d)

$$\frac{5}{8}$$
 area / opp. = $265m^2$

$$\Rightarrow$$
 area / opp. = $265^{53} \times \frac{8}{3,1}m^2$

= 424m²

or / of

$$\frac{1}{8}$$
 area / opp. = 53m²

$$\frac{8}{8}$$
 area / opp. = 424m²

B.

2.

a) SP / VP = 80% of/van R135
 $= R \frac{4}{3,1} \times 135^{27}$
 $= R108$

b)

SP / VP = 75% of/van R142
 $= R \frac{3}{3,2} \times 142^{71}$
 $= R \frac{213}{2}$
 $= R106,50$

c)

SP / VP = 90% of/van R2840
 $= R \frac{9}{10,1} \times 28,40^{2,84}$
 $= R25,56$



d)
 $SP / VP = 8\frac{1}{3}\% \text{ of/van } \frac{1}{12}$
 $= \frac{11}{12} \times R3156^{263}$
 $= R2893$

4.
 a) $SI / ER = \frac{9}{100} \times R350^7 = R31,50$
 Amt. owed/ Bedrag skuld
 $R350 + R31,50 = R381,50$
 b) $SI / ER = \frac{12}{100} \times R840 \times 2^1 = R^{1008}_5$
 Amt. owed/ Bedrag skuld
 $R840 + R201,60 = R1041,60$

5.
 a)
 $SI / ER = 11,5\% \text{ of/van } R1400$
 $= R \frac{11,5}{100} \times 1400$
 $= R23 \times 7$
 $= R161$

b)
 $SI / ER = 11,5\% \text{ of/van } R3500$
 for 1 year/vir 1 jaar
 $= R \frac{11,5}{100} \times 3500 \times 2$
 for 2 years/vir 2 jaar
 $= R11,50 \times 7$
 $= R115 \times 7$
 $= R805$

6.
 b) Profit/Wins = $R1080 - R900 = R180$
 $\% \text{ Profit/Wins} = \frac{180}{900} \times 100\% = 20\%$
 c) Profit/Wins $R16,80 - R12,60 = R4,20$
 $\% \text{ Profit/Wins} = \frac{4,20^1}{12,60_3} \times 100\% = 33\frac{1}{3}\%$
 d) Loss/ Verlies = $R4000$
 $\% \text{ Loss/ Verlies} = \frac{4000^1}{24000_6} \times 100\% = 16\frac{2}{3}\%$
 e) Profit/Wins = $R1368 - R1140 = R228$
 $\% \text{ Profit/Wins} = \frac{228}{114} \times 100\% = 20\%$
 f) $SP/VP 40 = 63 \times 40c = 2520c = R25,20$
 Profit/Wins = $R25,20 - R18 = R7,20$
 $\% \text{ Profit/Wins} = \frac{7,20}{18} \times 100\% = 40\%$
 g) $SP/VP 50 = 50 \times R1,80 = R90$
 Profit/Wins = $R90 - R80 = R10$
 $\% \text{ Profit/Wins} = \frac{10}{80} \times 100\% = 12\frac{1}{2}\%$

8.
 a) i)
 $SP / VP = 114\% \text{ of/van } R30$
 $= \frac{114}{100} \times R30$
 $= R \frac{342}{10}$
 $= R34,20$

ii)
 $SP / VP = 114\% \text{ of/van } R70$
 $= \frac{114}{100} \times R70$
 $= R \frac{798}{10}$
 $= R79,80$

b) ii) 114% price/prys = $R9,69$
 1% price/prys = $R9,69 \div 114$
 100% price/prys = $R9,69 \div \frac{100}{114}$
 $= R8,50$
 iii) 114% price/prys = $R1,99$
 1% price/prys = $R1,99 \div 114$
 100% price/prys = $R1,99 \div \frac{100}{114}$
 $= R1,75$
 iv) 114% price/prys = $R5,00$
 1% price/prys = $R5,00 \div 114$
 100% price/prys = $R5,00 \times \frac{100}{114}$
 $= R4,39$

10.
 a) i) $10\$ = R9,43 \times 10 = R94,30$
 ii) $50\$ = R9,43 \times 50 = R471,50$
 b) i) $\text{£}30 = R11,50 \times 30 = R345$
 ii) $\text{£}70 = R11,50 \times 70 = R805$

C.
 2.
 a) No. girls/ Aantal dogters
 $= 60\% \text{ of/van } 500$
 $= \frac{3}{5} \times 500$
 $= 300$
 b) No. boys/ Aantal seuns = 200
 No. present/ Aantal aanwesig
 $= \frac{88}{100} \times 200 = 176$
 c) % Tennis
 $= 100 - (45 + 25)\% = 30\%$
 No. tennis/ Aantal tennis = $\frac{3}{10} \times 500 = 150$
 d) No. / Aantal = $\frac{97}{100} \times 500 = 485$

3.
 $\% \text{ food/kos} = \frac{480}{2400} \times 100\% = 20\%$
 $\% \text{ left/oor} = 80\%$

4.
 $\% \text{ rugby} = 100 - (10 + 20 + 5) = 65\%$
 No. rugby/ Aantal rugby = $\frac{65}{100} \times 80 = 52$

5.
 Int./ Rente 1 yr/jr = $R225$
 12% of money/ van geld = $R225$
 $\frac{12}{100}$ of money/van geld = $R225$
 $\frac{1}{25}$ of money/van geld = $R75$
 $\frac{25}{25}$ of money/van geld = $R75 \times 25$
 $= R1875$

6.
 $MP / GP = 160\% \text{ of/van } R7,50$
 $= \frac{8}{5} \times R7,50$
 $= R12$

$SP / VP = 95\% \text{ of/van } R12$
 $= \frac{95}{100} \times R12$
 $= R \frac{57}{5}$
 $= R11,40$

7.
Dealers price / Handelaar prys
 $= 75\% \text{ of / van } R54000$
 $= R \frac{3}{4} \times 54000^{13500}$
 $= R40500$
 $SP / VP = 96\% \text{ of / van } R54000$
 $= \frac{96}{100} \times 54000$
 $= R12 \times 4320 \text{ (} 96 = 12 \times 8 \text{)}$
 $= R51840$
 $P / W = R51840 - R40500$
 $= R11340$

8.
 7% on/op $R10\ 000 = R7000$
 4% on/op $R150\ 000 = R6000$
 Total/Totaal = $R13\ 000$

9.
 a) No. pink/ Aantal pienk
 $= 15\% \text{ of/van } 120$
 $= \frac{3}{20} \times 120^6$
 $= 18$
 b) No. red/ Aantal rooi
 $= 25\% \text{ of/van } 120$
 $= 30$
 c) % black/ swart = $50\% - 33\frac{1}{3}\% = 16\frac{2}{3}\%$
 or/of fraction/breuk = $\frac{1}{2} - \frac{1}{3} = \frac{1}{6}$
 No.black/swart = $\frac{1}{6} \times 120 = 20$

10.
 a) $R30\ 000$
 b) $R22\ 500$

Section 4 / Afdeling 4

B.
 1.

a) 191	b) 337
283	575
400	752
c) 63	d) 4
175	11
560	30

2.

a) 33	b) 79
58	115
98	277
c) 7	d) $\frac{5}{2}$
16	4
30	$\frac{7}{3}$
e) 1,6	f) 14
3,4	48
4,5	172

3.

a)

x	1	2	3	5	8	12
y	3	10	17	31	52	80

b)

x	2	4	6	8	20	50
y	25	43	61	79	187	457

c)

x	1	2	3	7	8	9
y	3	6	11	51	66	83

d)

x	5	7	9	12	13	15
y	70	58	46	28	22	10

4.

	k	p	t
a)	18	9	15
b)	22	9	12
c)	45	15	20
d)	7	11	148
e)	64	13	15
f)	53	9	11

- 5.
- a) $t = p + 5$
 b) $t = 8p$
 c) $t = 3p + 1$
 d) $t = 6p - 2$
 e) $t = p^2$
 f) $t = p^3$

6.

	a	m	n
a)	$t = 9p$	63	12
b)	$t = p^2$	81	13
c)	$t = p \div 2$	2,5	17
d)	$t = p \div 4$	$\frac{9}{4}$	12
e)	$t = p \div 100$	0,2	120
f)	$t = p \div 6$	$\frac{9}{6} = \frac{3}{2}$	24

7.

a)

x	0	1	3	4	7	9	11
y	1	4	10	13	22	28	34

b)

x	1	3	5	7	10	15
y	1	5	9	13	19	29

c)

x	0	1	2	3	4	5
y	0	1	4	9	16	25

d)

x	2	3	4	5	8	10
y	12	16	20	24	36	44

Section 5 / Afdeling 5

- A.**
- 1.
- a) the perimeter/ die omtrek
 b) the area/ die oppervlakte
 c) 1cm^2
 d) a square/ 'n vierkant

- 2.
- a) 14 units/eenhede
 6 sq. units/ vk. eenhede
 b) 18 units/eenhede
 8 sq. units/ vk. eenhede
 c) 22 units/eenhede
 10 sq. units/ vk. eenhede

- 3.
- a) i) $2\ell + 2b$ or/of $2(\ell + b)$
 ii) $4 \times \text{side/sy}$
 iii) $\ell \times b$
 iv) $(\text{side } \ell)^2 / (\text{sy } \ell)^2$

- B.**
- a) $(7 + 7 + 8) \times 2 + (2 + 3) \times 2 \text{ m}$
 $= 44 + 10 \text{ m}$
 $= 54 \text{ m}$
 b) $11 \times 2 + 7 \times 2 \text{ m}$
 $= 36 \text{ m}$

- 2.
- b) P/O = $2 \times (7 + 2,5) \text{ cm}$
 $= 19 \text{ cm}$
 Area/Opp = $7 \times 2,5 \text{ cm}^2$
 $= 17,5 \text{ cm}^2$
 c) P/O = $2 \times 7,6 \text{ cm}$
 $= 15,2 \text{ cm}$
 Area/Opp = $3 \times 4,6 \text{ cm}^2$
 $= 13,8 \text{ cm}^2$
 d) P/O = $2 \times 10,7 \text{ cm}$
 $= 21,4 \text{ cm}$
 Area/Opp = $6 \times 4,7 \text{ cm}^2$
 $= 28,2 \text{ cm}^2$

- 3.
- a) Area/Opp = $5 \times 1,6 \text{ m}^2 = 8 \text{ m}^2$
 b) Area/Opp = $20 \times 29,5 \text{ cm}^2 = 590 \text{ cm}^2$
 c) P/O = $4 \times 3 \text{ m} = 12 \text{ m}$
 Area/Opp = $3 \times 3 \text{ m}^2 = 9 \text{ m}^2$
 d) Jerry: Area/Opp = $4 \times 3,5 \text{ m}^2 = 14 \text{ m}^2$
 Anna: Area/Opp = $2,5 \times 5,6 \text{ m}^2 = 14 \text{ m}^2$
 No difference in area/
 Geen verskil in oppervlakte
 Jerry: P/O = $2 \times 7,5 \text{ m} = 15 \text{ m}$
 Anna P/O = $2 \times 8,1 \text{ m} = 16,2 \text{ m}$
 Diff/Verskil = $1,2 \text{ m}$

5.

	ℓ	b	A/Opp
a)	8cm	3cm	24cm ²
b)	6cm	4cm	24cm ²
c)	12m	2m	24m ²
d)	8m	3m	24m ²
e)	12cm	11cm	132cm ²
f)	14m	4m	56m ²
g)	6cm	2,5cm	15cm ²
h)	12m	6m	72m ²

- 6.
- b) $\ell + b = 11 \text{ cm}$ $b = 5 \text{ cm}$
 c) $\ell + b = 30 \text{ m}$ $\ell = 20 \text{ m}$
 d) $4\ell = 20 \text{ m}$ $\ell = 5 \text{ m}$
 e) $4\ell = 36 \text{ cm}$ $\ell = 9 \text{ cm}$

- 7.
- a) 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225.
 b) i) 9 ii) 11 iii) 20 iv) 13
 c) i) 8cm ii) 12m iii) 15cm iv) $\frac{9}{2} = 4,5 \text{ cm}$

8.

a)	ℓ	b	P/O	A/Opp
i)	5cm	6,2cm	22,4cm	31cm ²
ii)	7m	3m	20m	21m ²
iii)	7cm	5cm	24cm	35cm ²
iv)	12mm	8mm	40mm	96mm ²
b)	ℓ	b	P/O	A/Opp
i)	11m		44m	121m ²
ii)	7cm		28cm	49cm ²
iii)	12m		48m	144cm ²
iv)	13cm		52cm	169cm ²

- 9.
- a) $7^2 > 6 \times 8$ square has larger area/
 vierkant het groter opp.
 b) $2(11 + 4) = 50$ & $12 \times 4 = 48$
 rectangle has larger perimeter/
 reghoek het groter omtrek.
 c) $2(6 + 9) = 30$ & $8 \times 4 = 32$
 Isandi must buy most wire/
 Isandi moet meeste draad koop.

- 10.
- Shaded area/ Arseesde opp
 $= \text{Area/Opp ABCD} - \text{Area/Opp PQRS}$
 $= 8,6 \times 6 - 6,6 \times 4 \text{ cm}^2$
 $= 51,6 - 26,4 \text{ cm}^2$
 $= 25,2 \text{ cm}^2$

- C.**
- 1.
- Area $\triangle BCD = \frac{1}{2}$ Area ABCD /
 Opp $\triangle BCD = \frac{1}{2}$ Opp ABCD

- 2.
- d) DE & height/ hoogte

- 3.
- a) 6cm^2
 b) $16,5\text{cm}^2$
 c) 30cm^2

- 4.
- a) i) $\hat{E}FC = 90^\circ$ ii) $\hat{D}EC = 90^\circ$
 b) $\triangle ADE, \triangle DEF, \triangle CEF, \triangle BCE, \triangle DEC$
 c) DE
 d) EF
 e) $\frac{1}{2} CE \times DE, \frac{1}{2} CD \times EF$

- 5.
- b) i) PR ii) PQ
 iii) $\frac{PR \times BQ}{2}$ ii) $\frac{PQ \times CR}{2}$



- 6.
- b) Area/Opp ΔPQR
 $= \frac{b \times h}{2} = \frac{35}{2} \text{ cm}^2 = 17\frac{1}{2} \text{ cm}^2$
- c) Area/Opp ΔDEF
 $= \frac{b \times h}{2} = \frac{12 \times 6}{2} = 36 \text{ sq units/ vk eenhede}$
- d) Area/Opp ΔABC
 $= \frac{b \times h}{2} = \frac{9 \times 5}{2} \text{ cm}^2 = 22\frac{1}{2} \text{ cm}^2$
- e) Area/Opp ΔPQR
 $= \frac{PQ \times BR}{2} = \frac{21 \times 8}{2} \text{ cm}^2 = 84 \text{ cm}^2$

7.

$$\frac{BC \times AD}{2}, \frac{CA \times BE}{2}, \frac{BA \times CF}{2}$$

- 8.
- Area/Opp $\Delta ABC = \frac{1}{2} (b \times h)$
- a) $\frac{9 \times 6}{2} \text{ cm}^2 = 27 \text{ cm}^2$
- b) $\frac{1}{2} \times 5 \times 6 \text{ cm}^2 = 15 \text{ cm}^2$
- c)
 $\frac{1}{2} \times AB \times PC$
 $= \frac{1}{2} \times 16 \times 10 \text{ mm}^2$
 $= 80 \text{ mm}^2$

- 9.
- a) P/O = $20 + 2 \times 8 + 2 \times 10,8$
 $= 20 + 16 + 21,6$
 $= 57,6 \text{ m}$
- A/Opp = Area/Opp ABCE + Area/Opp ΔCED
 $= l \times b + \frac{1}{2} (b \times h)$
 $= 20 \times 8 + \frac{1}{2} \times 20 \times 4 \text{ m}^2$
 $= 160 + 40 \text{ m}^2$
 $= 200 \text{ m}^2$
- b) P/O = $15 + 23 + 17 + 15 \text{ cm} = 70 \text{ cm}$
 A/Opp = Area/Opp ABCD + Area/Opp ΔDCE
 $= 15 \times 15 + \frac{1}{2} \times 8 \times 15 \text{ cm}^2$
 $= 225 + 60 \text{ cm}^2$
 $= 285 \text{ cm}^2$

- 10.
- a) PQ = $21,7 - 7 \text{ cm} = 14,7 \text{ cm}$
 PS = $16,2 - 7 \text{ cm} = 9,2 \text{ cm}$
 Shaded area/ Arseeded area
 $= \text{Area/Opp ABCD} - \text{Area/Opp PQRS}$
 $= 21,7 \times 16,2 - 14,7 \times 9,2 \text{ cm}^2$
 $= 216 \text{ cm}^2$
- b) AE = $\frac{1}{3} \times 37,2 \text{ m} = 12,4 \text{ m}$
 Shaded area/ Arseeded area
 $= \text{ABCD} - \Delta AED$
 $= 37,2 \times 21,7 - \frac{12,4 \times 21,7}{2} \text{ m}^2$
 $= 672,7 \text{ m}^2$
 $\approx 673 \text{ m}^2$

- D.**
- 1.
- | | |
|--|---|
| a) 1cm = 10mm
1cm ² = 1cm × 1cm
= 10 mm × 10 mm
= 100 mm ² | b) 1m = 100cm
1m ² = 1m × 1m
= 100cm × 100cm
= 10 000 cm ² |
| c) 1km = 1000m
1km ² = 1km × 1km
= 1000m × 1000m
= 1 000 000m ² or/of
= 10 ⁶ m ² | e) 1 ha
= 100 m × 100m
= 10 000m ² or/of
= 10 ⁴ m ² |

- 2.
- a) 600mm², 830mm², 74,1mm²
 b) 0,46cm², 1,47cm², 20,75cm²
 c) 50000cm², 48000cm², 7000cm²
 d) 0,0863m², 0,6432m², 0,00932m²
 e) 700ha, 30ha, 4,6ha
 f) 84000m², 129000m², 5000m²,
 g) 0,3721ha, 1ha, 9,5324ha
 h) 4,91cm², 34,76cm², 567,14cm²

- 3.
- a) b = 7cm
 b) l = 12m
 c) b = 4mm

- 4.
- a) P/O = 120cm
 b) P/O = 486cm

- 5.
- b) Number of tiles/ Aantal teëls
 $= \frac{3600 \text{ mm} \times 2500 \text{ mm}}{300 \text{ mm} \times 300 \text{ mm}}$
 $= 100$
- c) Number of tiles/ Aantal teëls
 $= \frac{150 \text{ cm} \times 150 \text{ cm}}{30 \text{ cm} \times 30 \text{ cm}}$
 $= 25$
 Cost/Koste = $25 \times R6,50$
 $= R162,50$
- d) Area/Opp = $700 \times 550 \text{ m}^2$
 $= 385 000 \text{ m}^2 = 38,5 \text{ ha}$
 Cost/Koste = $38,5 \times R900$
 $= R34 650$
- e) AB = BC = CF = FA = $\sqrt{16}$
 $= 4 \text{ units/ eenhede}$

- $4 \times 4 + 2 \times 6,6$
 $= 29,2 \text{ units / eenhede}$
- A/Opp = $16 + 26,4 \text{ sq. units/ vk. eenhede}$
 $= 42,4 \text{ sq. units/ vk. eenhede}$
- f) BE = 3 cm & BD = 4 cm
 Area/Opp $\Delta ABC - \text{Area/Opp } \Delta BDE$
 $= \frac{24(7)}{2} - \frac{4(3)}{2} \text{ cm}^2$
 $= 84 - 6 \text{ cm}^2$
 $= 78 \text{ cm}^2$

- 6.
- a) $\times 2$ b) $\times 4$

- 7.
- a) $\times 2$ b) $\times 4$

- 8.
- a) $\times 2$ b) $\times 4$

Section 6 / Afdeling 6

- A.**
- 2.
- a) 6 b) 8 c) 12

- 3.
- a) HE = 30mm, AE = 20mm, AB = 45mm,
 EF = 45mm, GF = 30mm
 b) i) CD || HG || EF || AB
 ii) HD || GC || EA || FB
 iii) BC || DA || HE || GF
 c) i) EFGH
 ii) AEHD
 iii) BAEF

- 6.
- a) Rectangular prism/ Reghoekige prisma
 b) Rectangular prism/ Reghoekige prisma
 c) Cylinder/ Silinder
 d) Triangular prism/ Driehoekige prisma
 e) Hexagonal prism/ Seshoekige prisma
 f) Triangular pyramid/ Driehoekige piramide
 g) Square based pyramid/ Vierkantige basis piramide
 h) Cone/ Kegel

- 8.
- | | | | |
|----------|---------|-----------|---------|
| a) 2000ℓ | b) 3kℓ | c) 7000mℓ | d) 5ℓ |
| 500ℓ | 7,653kℓ | 800mℓ | 12,634ℓ |
| 3800ℓ | 0,074kℓ | 5400mℓ | 0,078ℓ |
| 825ℓ | 0,973kℓ | 678mℓ | 0,645ℓ |

- 9.
- b) i) 12 ii) 24

- 10.
- a) 12cm³
 b) 24cm³

- 11.
- c) Value stays the same / Doesn't matter.
 Waarde bly dieselfde / Maak nie saak nie.

- B.**
- 1.
- a) 1cm = 10mm
 1cm³ = 10mm × 10mm × 10mm
 = 1000mm³
- b) 1m = 100cm
 1m³ = 100cm × 100cm × 100cm
 = 1 000 000cm³
- c) 1000mm³ = 10mm × 10mm × 10mm
 = 1cm × 1cm × 1cm
 = 1cm³
- d) 1000 0000cm³
 = 100cm × 100cm × 100cm
 = 1m × 1m × 1m
 = 1m³

- 2.
- | | |
|--------------------|--------------------|
| a) mm ³ | b) cm ³ |
| 2000 | 3 |
| 700 | 0,672 |
| 32 | 5,374 |
| 147,6 | 87,3265 |



c) cm^3	d) m^3
4×10^6	0,006
12×10^6	9
173×10^6	0,0124653
144000	1,3

5.
a) 1mℓ
b) 2m³
c) 2000ℓ
d) i) 10⁶mℓ ii) 1kℓ

6.
 $V = l \times b \times h$
a) $V = 3 \times 2 \times 2 \text{ cm}^3 = 12\text{cm}^3$
b) $V = 4 \times 3 \times 2 \text{ cm}^3 = 24\text{cm}^3$
c) $V = 5 \times 2,6 \times 9 \text{ cm}^3 = 117\text{cm}^3$
d) $V = 25 \times 12 \times 10 \text{ mm}^3$
 $= 300 \times 10 \text{ mm}^3$
 $= 3\text{cm}^3$

7.
a) 302,31cm³
b) 242,03cm³
c) 26879,59cm³

C.

1.
b) $V = 11 \times 9,5 \times 7,3 \text{ cm}^3$
 $= 762,85 \text{ cm}^3$
Capacity/ Inhoud = 762,85mℓ
 $= 0,76285\ell$
c) $V = 11 \times 4 \times 2,5 \text{ m}^3$
 $= 110 \text{ m}^3$
Capacity/ Inhoud = 110kℓ
 $= 110000\ell$
d) $V = 6^3 \text{ m}^3$
 $= 216\text{m}^3$
Capacity/ Inhoud = 216kℓ
 $= 216000\ell$
e) $V = 400 \times 150 \times 20 \text{ cm}^3$
 $= 1200000 \text{ cm}^3$
Capacity/ Inhoud = 1200000mℓ
 $= 1200\ell$
f) $V = 6,4\text{m}^2 \times 2 \text{ m}$
 $= 12,8 \text{ m}^3$
Capacity/ Inhoud = 12,8kℓ
g) $V = 80 \times 50 \times 12 \text{ cm}^3$
 $= 4800\text{cm}^3$

2.
a) Area base/Opp. Basis \times ht = Vol.
 $250\text{cm}^2 \times ht = 375\text{cm}^3$
 $ht = \frac{375\text{cm}^3}{250\text{cm}^2}$
 $ht = \frac{3}{2}\text{cm}$
 $ht = 1,5\text{cm}$

b) $l \times b \times h = \text{Vol}$
 $= l \times 8\text{cm} \times 6\text{cm} = 480\text{cm}^3$
 $l = \frac{480\text{cm}^3}{48\text{cm}^2}$
 $l = 10\text{cm}$
c) $\ell^3 = 125\text{cm}^3$ & $5^3 = 125$
 $\therefore \ell = 5\text{cm}$

d) $\text{Vol} = 729\text{m}^3$
 $C/l = 729\text{k/l}$
 $C/l \frac{1}{2} \text{ full/vol} = \frac{729000\ell}{2} = 364500\ell$

3.
a) i) $\text{Vol} = 35 \times 35 \times 35 \text{ cm}^3$
 $C/l = 35 \times 35 \times 35 \text{ m/l}$
 $= \frac{35 \times 7 \times 35 \times 7 \times 35 \times 7}{10^2 \times 10^2 \times 10^2} \text{ l}$
 $= \frac{343}{8} \text{ l}$
 $= 42\frac{7}{8} \text{ l}$

ii) No. times/ Aantal kere
 $= \frac{70 \times 100 \times 105}{35 \times 35 \times 35} \text{ cm}^3$
 $= \frac{120}{7}$
 $= 17\frac{1}{7}$
 ≈ 17

b) No. bottles/ Aantal bottels
 $= \frac{\text{Vol cube/kubus}}{\text{Vol 1 bottle/bottel}}$
 $= \frac{75\text{cm} \times 75\text{cm} \times 75\text{cm}}{750\text{cm}^3}$
 $= \frac{1125}{2}$
 $= 562\frac{1}{2}$

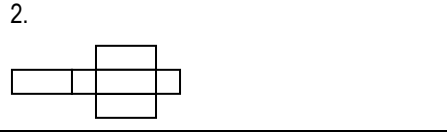
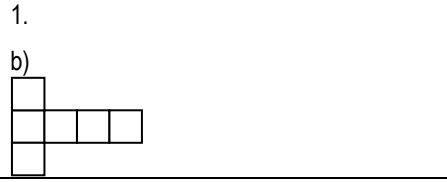
No. full bottles/ Aantal vol bottels = 562

c) No. containers/ Aantal houers
 $= \frac{50\text{cm} \times 50\text{cm} \times 50\text{cm}}{2\text{cm} \times 1,25\text{cm} \times 2\text{cm}}$
 $= 25000$

d) No. bottles/ Aantal bottels
 $= \frac{25\text{m} \times 10\text{m} \times 9,8\text{m}}{250\text{cm}^3}$
 $= \frac{2500\text{cm} \times 1000\text{cm} \times 980\text{cm}}{250\text{cm}^3}$
 $= 9800000$

4.
a) 162cm³
b) i) 8
ii) 27

D.



3.
a) 6 b) 3

4.
b) i) ℓ² sq units/ vk eenhede
ii) 6ℓ² sq units/ vk eenhede
c) i) $l \times b$
ii) $b \times h$
iii) $l \times h$
iv) $(l \times b + b \times h + l \times h) \times 2$

5.
b) $S.\text{Area} / B.\text{Opp}$
 $= 2(4 \times 8,5 + 2 \times 8,5 + 2 \times 4)\text{cm}^2$
 $= 2(34 + 17 + 8)\text{cm}^2$
 $= 2 \times 59\text{cm}^2$
 $= 118\text{cm}^2$

c) $S.\text{Area} / B.\text{Opp}$
 $= 6 \times 4,5 \times 4,5\text{cm}^2$
 $= \frac{6}{1} \times \frac{9}{2} \times \frac{9}{2} \text{ cm}^2$
 $= \frac{243}{2} \text{ cm}^2$
 $= 121\frac{1}{2} \text{ cm}^2$

d) $S.\text{Area} / B.\text{Opp}$
 $= 2(2 \times 0,75 + 2 \times 0,5 + 0,5 \times 0,75)\text{m}^2$
 $= 2(1,5 + 1 + 0,375)\text{m}^2$
 $= 2 \times 2,875\text{m}^2$
 $= 5,75\text{m}^2$

e) $S.\text{Area} / B.\text{Opp}$
 $= 2(3 \times 1,1 + 3 \times 3,6 + 3,6 \times 1,1)\text{m}^2$
 $= 2(3,3 + 10,8 + 3,96)\text{m}^2$
 $= 2 \times 18,06\text{m}^2$
 $= 36,12\text{m}^2$

E.

1.
 $S.\text{Area} / B.\text{Opp} = 150\text{cm}^2$
 $6\ell^2 = 150 \text{ cm}^2$
 $\ell^2 = 150 \div 6 \text{ cm}^2$
 $= 25 \text{ cm}^2$
 $\therefore \ell = 5\text{cm}$

2.
 $\text{Vol} = 512 \text{ cm}^3$
 $\ell^3 = 512 \text{ cm}^3$
 $\ell = 8 \text{ cm}$
 $S.\text{Area} / B.\text{Opp} = 6 \times 64 \text{ cm}^2$
 $= 384\text{cm}^2$

3.
 $S.\text{Area} / B.\text{Opp}$
 $= 2(12 \times 8 + 20 \times 8) + (20 \times 12) \text{ cm}^2$
 $= 2(96 + 16) + 240 \text{ cm}^2$
 $= 2(256) + 240 \text{ cm}^2$
 $= 512 + 240 \text{ cm}^2$
 $= 752\text{cm}^2$

4.
 $\text{Area base/ Opp. Basis} = 0,81\text{m}^2$
 $\ell^2 = 0,81\text{m}^2$
 $\ell = 0,9\text{m}$
 $S.\text{Area} / B.\text{Opp}$
 $= 2 \times 0,81 + 4 \times 0,9 \times 1,5 \text{ m}^2$
 $= 1,62 + 5,4 \text{ m}^2$
 $= 7,02 \text{ m}^2$



Section 7 / Afdeling 7

1.1

a) $\frac{10}{15} + \frac{4}{15} = \frac{14}{15}$ b) $\frac{5}{12} - \frac{4}{12} = \frac{1}{12}$

c) $\frac{2}{3} \times \frac{5}{4} = \frac{5}{6}$ d) $\frac{2}{3} + \frac{5}{\cancel{2}} \times \frac{\cancel{2}}{3} =$
 $\frac{4}{6} + \frac{5}{6} = \frac{\cancel{9}^3}{\cancel{6}_2} = 1\frac{1}{2}$

e) $\frac{7}{8} - \frac{3}{\cancel{10}_2} \times \frac{\cancel{2}}{2} =$
 $\frac{7}{8} - \frac{6}{8} = \frac{1}{8}$ f) $(\frac{3}{9} + \frac{1}{9}) \times \frac{3}{8} + \frac{1}{3} =$
 $\frac{\cancel{3}^1}{\cancel{9}_3} \times \frac{\cancel{3}}{8} + \frac{1}{3} =$
 $\frac{1}{\cancel{3}_3} + \frac{2}{6} = \frac{1}{2}$

1.2

a) $\frac{7}{10} = \frac{7}{10}$

b) $\frac{12}{40} < \frac{15}{40} \Rightarrow \frac{3}{10} < \frac{3}{8}$

c) $\frac{35}{60} < \frac{36}{60} \Rightarrow \frac{7}{12} < \frac{3}{5}$

d) $5 > 4\frac{3}{4}$

1.3

a) $\frac{20}{40}, \frac{24}{40}, \frac{25}{40}, \frac{28}{40}$
 $\Rightarrow \frac{1}{2} < \frac{3}{5} < \frac{5}{8} < \frac{7}{10}$

b) $\frac{16}{24}, \frac{20}{24}, \frac{14}{24}, \frac{15}{24}$
 $\Rightarrow \frac{7}{12} < \frac{5}{8} < \frac{2}{3} < \frac{5}{6}$

1.4

No. boys/ Aantal seuns
 $= \frac{7}{\cancel{11}_1} \times 517^{\cancel{47}} = 329$

1.5

a) i) $\frac{7\frac{1}{2}h}{24h} = \frac{15^5}{2} \times \frac{1}{24^8} = \frac{5}{16}$
 ii) $\frac{48g}{800g} = \frac{6}{100} = \frac{3}{50}$

b) No./Getal
 $= (\frac{12}{5} + \frac{17}{5}) \div 2 = \frac{29}{5} \times \frac{1}{2} = 2\frac{9}{10}$

c) $\frac{R36,40}{5} + \frac{2 \times R19,08}{3} = R7,28 + R12,72 = R20$

d) Fraction spent/ Breukdeel spandeer
 $= \frac{12}{20} + \frac{5}{20} = \frac{17}{20}$
 $\frac{3}{20}$ of money/van geld = R51
 $\frac{1}{20}$ of money/van geld = R17
 $\frac{20}{20}$ of money/van geld = R17 \times 20 = R340

1.6

a) $\frac{27}{4}, \frac{21}{4}, \frac{15}{4}, \frac{9}{4}, \frac{3}{4}, \dots$
 $\Rightarrow 6\frac{3}{4}; 5\frac{1}{4}; 3\frac{3}{4}; 2\frac{1}{4}; \frac{3}{4}$

b) $\frac{8}{1}, \frac{8}{3}, \frac{8}{9}, \frac{8}{27}, \frac{8}{81}, \dots$

2.1

a) 70
0,005
0,4176
0,068

b) $6 \times 3 = 180$
 $0,274 \div 2 = 0,137$
 $6 \times 0,05 = 0,3$
 $11 \times 370 = 4070$

2.2

a) 462,5 b) 94,16
 c) 1,60 d) 27,1

2.3

a) 21,679g
 b) 1671ml
 c) 77,14cm
 d) 2082kg
 e) 274,8cm \approx 275cm
 f) No./Getal
 $= \frac{4,65+5,26}{2} = \frac{9,91}{2} = 4,955$

2.4

a) $8,15 - 5,5 - 0,36 = 2,65 - 0,36 = 2,29$
 b) $0,04 \times 10^3 + 1 = 40 + 1 = 41$
 c) $1,44 \div 4 - 0,36 = 0,36 - 0,36 = 0$
 d) $0,16 - 0,06 = 0,1$

2.5

a) 7,93 ; 10,03 (+2,1)
 b) 2,749 ; 2,634 (-0,115)

2.6

a) i) 53,73 ii) 770,4882
 b) i) 38,617 ii) 38,617
 iii) 0,38617 iv) 0,529

2.7

a) $p = 0,6 = \frac{2}{3} \Rightarrow \frac{1}{p} = \frac{3}{2} = 1,5$

b) $3,3 = 3\frac{1}{3} = \frac{10}{3}$
 $\& 76,42 \times \frac{3}{10} = \frac{229,26}{10} = 22,926$

2.8

a) Rounding off to 2 or 3 dec. places/
 Afrond tot 2 of 3 des. pl.

3.1

a) $\frac{19}{25} = \frac{76}{100} = 76\%$
 b) $\frac{12,5}{87,5} = \frac{125}{875} = \frac{1}{7} \times 100\% = 14\frac{2}{7}\%$

3.2

a) $\frac{2}{\cancel{8}_1} \times R\cancel{84}^{28} = R56$
 b) $\frac{12\cancel{0}}{100} \times R12\cancel{0}^{\cancel{0}} = 144\ell$

3.3

a) $\frac{28}{36} = \frac{7}{9} \times 100\% = \frac{700}{9}\% = 77\frac{7}{9}\%$ &
 $\frac{33}{40^2} \times 100^5\% = \frac{165}{2}\% = 82\frac{1}{2}\%$
 Best/Beste = 33 out of/uit 40

3.4

a) Incr. mass/ Verm. Massa
 $= 45 \times \frac{11\cancel{0}g}{10\cancel{0}} = 49,5g$

b) Decr./Verm
 $= \frac{1}{8} \times R96 = R12$
 Amt./Bedrag = R96 - R12 = R84

3.5

New salary/ Nuwe salaris
 $= 108\%$ of/van R15000
 $= R\frac{108}{100} \times 15000$

Per month/ Per maand = $\frac{108^a \times 150}{12^1}$
 $= R1350$

3.6

SI/ER = 8,5% of/van R3000 for 1 year/ vir een jaar
 $= R\frac{8,5}{100} \times 3000$
 $= R255$ for 1 year/ vir een jaar
 Int. 2 years/ 2 jare = R510

3.7

114% of amount/ van bedrag = R798
 $\frac{114}{100}$ of amount/van bedrag = R798
 $\frac{1}{100}$ of amount/van bedrag = R(798 \div 114)
 $\frac{100}{100}$ of amount/van bedrag = R700
 25% profit/ wins \Rightarrow SP = 125%
 $\frac{125}{100}$ of amount/van bedrag = R700
 $\frac{1}{100}$ of amount/van bedrag = R $\frac{700}{125}$
 CP/KP = $\frac{100}{100} = R\frac{700}{125} \times 100 = R560$

3.8

Let original salary? Laat oorspp. salaris = Rx
 1st incr. amt. / 1^{ste} verm. bedrag
 $= 120\%$ of/van Rx
 $= \frac{6}{5} \times Rx$
 Decr. Amt./Verm bedrag
 $= 80\%$ of/van R $\frac{6x}{5}$
 $= R\frac{4}{5} \times \frac{6x}{5}$
 $= R\frac{24x}{25}$
 $\%$ of original/ % van oorspr
 $= \frac{24}{25} \times 100\% = 96\%$

4.1

a) $\sqrt{9}, 12$
 b) $\sqrt{9}, 12, \frac{0}{4}$
 c) $\sqrt{9}, 7,654, 0,4, 3\frac{1}{3}, 12, (0,4)^2, \frac{0}{4}$

4.2

a) $\div 3$ b) $\times 4 + 1$
 c) square + 1/ vierkant + 1 d) $\times 2 - 1$

4.3

a) $t = 2 \times p + 1$ 11, 13, 7
 b) $y = 2 \times x - 1$ 9, 7, 15
 c) $n = m^2 + 1$ 17, 5, 7
 d) $d = 4 \times c - 1$ 7, 9, 43

5.1

a) 500mm² b) 73400cm²
 c) 8,32cm² d) 5,6087m²
 e) 20 000m² f) 10m²



5.2

- a) $A/Opp = 5\text{cm} \times 3,5\text{cm} = 17,5\text{cm}^2$
 b) $12 \times b = 96 \rightarrow b = 8\text{m}$
 c) $l \times 20\text{cm} = 500\text{cm}^2 \rightarrow l = 25\text{cm}$

5.3

- a) $300\text{m} \times b = 27000\text{m}^2$
 $b = 90\text{m}$
 $P/O = 2 \times (300 + 90)\text{m} = 780\text{m}$
 $\text{Cost/Koste} = \text{R}30 \times 780\text{m}$
 $= \text{R}3 \times 7800\text{m}$
 $= \text{R}23400$
 b) No. of tiles/ Aantal teëls
 $= \frac{4,5\text{m} \times 4\text{m}}{20\text{cm} \times 20\text{cm}}$
 $= \frac{450 \times 400}{20 \times 20}$
 $= 450$

5.4

- a) Area/Opp
 $= \frac{1}{2} BC \times AD$
 $= \frac{1}{2} \times 8 \times 4,2\text{cm}^2$
 $= 16,8\text{cm}^2$
 b) Area/Opp
 $= \frac{BC \times AD}{2}$
 $= \frac{6 \times 7}{2} \text{cm}^2$
 $= 21\text{cm}^2$

5.5

- Area/Opp = 81cm^2
 $s = 9\text{cm}$
 New side/Nuwe sy = 10cm
 New area/Nuwe opp = 100cm^2
 Increase area/Vermeerde opp = 19cm^2

5.6

- Inside rect./Binneste reghoek:
 $l = 2,5\text{m}$ & $b = 1,5\text{m}$
 Area path/ Opp. paadjie
 $= 3,5 \times 2,5 - 2,5 \times 1,5\text{m}^2$
 $= 2,5 \times (3,5 - 1,5)\text{m}^2$
 $= 2,5 \times 2\text{m}^2$
 $= 5\text{m}^2$

6.1

- | | |
|-----------------------|----------------------|
| a) 20000mm^3 | b) 10^6cm^3 |
| c) $4,627\text{cm}^3$ | d) $4,817\text{m}^3$ |
| e) 24500cm^3 | f) $0,8\text{m}^3$ |

6.2

- | | |
|---|----------------------|
| a) 17cm^3 | b) $769,0\text{m}^3$ |
| c) $821,89\text{l} \approx 822\text{l}$ | |

6.3

- a) which it occupies/ wat dit in beslag neem.
 b) occupied inside the prism/ wat in beslag geneem is binne die prisma

6.4

- a) Fraction/Breukdeel = $\frac{400}{2000000} = \frac{1}{5000}$
 b) Fraction/Breukdeel = $\frac{150\text{ml}}{3000\text{ml}} = \frac{1}{20}$
 c) Fraction/Breukdeel = $\frac{200\text{ml}}{5000\text{ml}} = \frac{1}{25}$
 d) Fraction/Breukdeel = $\frac{2 \times 2 \times 2\text{cm}^3}{4 \times 4 \times 4\text{cm}^3} = \frac{1}{8}$

6.5

$$l^3 = 27\text{cm}^3 \Rightarrow l = 3\text{cm}$$

$$S.\text{Area} / B.\text{Opp} = 6 \times 3^2 \text{cm}^2 = 54\text{cm}^2$$

6.6

- a)
 $Vol = 80 \times 20 \times 40\text{cm}^3$
 $= 64000\text{cm}^3$
 b) $C / I = 64000\text{ml} = 64\text{l}$

6.7

No. blocks/ Aantal blokkies

$$= \frac{40 \times 50 \times 60\text{cm}^3}{30 \times 25 \times 20\text{cm}^3}$$

$$= 8$$

6.8

No. bottles/ Aantal bottels

$$= \frac{560\text{cm} \times 50\text{cm} \times 4\text{cm}}{2000\text{cm}^3}$$

$$= 56$$

6.9

- a) $Vol = 18\text{m} \times 6\text{m} \times 1,6\text{m} = 172,8\text{m}^3$
 $\text{Cap/Inhoud} = 172,8\text{k}^3 = 172800\text{l}$
 b) Fraction/Breukdeel = $\frac{16}{20} = \frac{16}{20} = 80\%$

6.10

Vol cube/ kubus = $30\text{cm} \times 30\text{cm} \times 30\text{cm}$
 $= 27000\text{cm}^3$
 Area/Opp = $400 \times 60\text{cm}^2$
 Area base/Opp basis \times ht = Vol
 $24000 \times ht = 27000$
 $ht = \frac{27000}{24000}$
 $ht = 1,125\text{cm}$
 $ht = 11,25\text{mm}$

6.11

Surface area/Buite Opp

$$= 2 \times (18 \times 10 + 18 \times 10 + 10 \times 10)\text{cm}^2$$

$$= 2 \times (180 + 180 + 100)\text{cm}^2$$

$$= 2 \times 460\text{cm}^2$$

$$= 920\text{cm}^2$$

Term 3/ Kwartaal 3

Section 1 / Afdeling 1

A.

1.
 c) $t = p \times 3$
 d) $t = p \times 3 + 1$
 e) $t = p \times 7$
 f) $t = p \times 7 - 3$

2.
 a) 10; 12; 14; ... b) 16; 32; 64; ...
 c) 9; 11; 13; ... d) 27; 81; 243; ...
 e) 8, 4; 0; ... f) 4; 2; 1; ...
 g) $5; 6\frac{1}{2}; 8; \dots$ h) $\frac{1}{16}; \frac{1}{32}; \frac{1}{64}; \dots$
 i) 2,6; 2; 1,4; ... j) $\frac{1}{12}; \frac{1}{24}; \frac{1}{48}; \dots$

3.
 a) 30; 4; ... b) 8; 3; ...
 c) 5; 15; ... d) 15; 20; ...
 e) 26; 37; ... f) $\frac{33}{2}; \frac{33}{4}; \dots$
 g) 16; 25; ... h) 8; 1

4.
 a) The new number is the sum of the 2 numbers before it / Die nuwe getal is die som van die 2 getalle net voor dit.
 b) 21; 34; 55; ...

5.
 a) 8; 13; 21; 34 b) 11; 17; 28; 45
 c) 10; 16; 26; 42 d) 14; 23; 37; 60

7.
 c)

1	2	3	4	n
0	1	2	3	$n - 1$

d)

1	2	3	4	n
6	12	18	24	$n \times 6$

e)

1	2	3	4	n
3	5	7	9	$n \times 2 + 1$

f)

1	2	3	4	n
3	7	11	15	$n \times 4 - 1$

8.
 a) 28 $T_n = 7 \times n$
 b) 30 $T_n = 7 \times n + 2$
 c) 36 $T_n = 9 \times n$
 d) 33 $T_n = 9 \times n - 3$
 e) 2^4 $T_n = 2^n$
 f) 81 $T_n = 3^n$

10.

	T_1	T_2	T_3	T_{20}
a)	10	16	22	124
b)	5	13	21	157
c)	3	6	11	402
d)	2	6	12	420

11.

	T_5	T_n	T_{10}	T_{50}
b)	40	$n \times 8$	80	400
c)	42	$n \times 8 + 2$	82	402
d)	25	n^2	100	2500
e)	28	$n^2 + 3$	103	2503
f)	32	2^n	2^{10}	2^{50}
g)	3^7	3^{n+2}	3^{12}	3^{52}

12.
 a) $4 = 2^2$
 $9 = 3^2$
 $16 = 4^2$
 $25 = 5^2$
 b) i) $6^2 = 36$
 ii) $10^2 = 100$
 iii) n^2

13.

D_5	D_{10}	D_n
10	20	$2 \times n$
9	19	$2 \times n - 1$
25	100	n^2
30	110	$n \times (n+1)$

a) 2; 4; 6; 8
 b) 1; 3; 5; 7
 c) 1; 4; 9; 16
 d) 2; 6; 12; 20

iv) a) even numbers/ ewe getalle
 b) odd numbers/ onewe getalle
 c) square numbers/ vierkantgetalle
 d) rectangular numbers / reghoekgetalle

14.
 a) triangular numbers/ driehoekgetalle
 b) $T_3 = 6, T_4 = 10$
 c) $T_5 = 15, T_6 = 21, T_7 = 28, T_8 = 36$
 d) $T_n = \frac{n \times (n+1)}{2}$

15.

1	2	3	4	n
1	4	9	16	n^2

16.

1	2	3	4	n	100
2	3	4	5	$n + 1$	101

17.

1	2	3	4	n	20
5	9	13	17	$4 \times n + 1$	81
5	8	11	14	$3 \times n + 2$	62

Section 2 / Afdeling 2

1.

	f	g	k
a)	29	10	15
b)	56	12	15
c)	50	9	11
d)	72	7	13
e)	18	8	12
f)	64	6	8

2.

a) $\frac{5}{8}$
 $\frac{7}{4} = 1\frac{3}{4}$
 $\frac{4}{6} = \frac{2}{3}$

b) $3\frac{1}{2}$
 5
 $6\frac{1}{4}$
 $\frac{4}{5}$
 $2\frac{3}{5}$
 $\frac{5}{10} = \frac{1}{2}$

c) 15
 $\frac{9}{7} = 1\frac{2}{7}$
 $\frac{9}{2} = 4\frac{1}{2}$

d) $\frac{4}{5}$
 $2\frac{3}{5}$
 $\frac{5}{10} = \frac{1}{2}$

e) 12
 $\frac{9}{16}$
 $\frac{8}{3} \times \frac{3}{4} = 2$

f) 8
 0,24
 0,028

g) 5
 7,6
 10,8

h) 0,01
 0,12
 0,7

i) 16
 $\frac{5}{4} \times \frac{4}{5} = 1$
 $\frac{16}{25}$

j) 1,75
 3,81
 5,85

3.

	y	p	n
a)	$x \div 2 / \frac{x}{2}$	3,5	26
b)	$x \div 3 / \frac{x}{3}$	3	12
c)	$x + 0,8$	8	12
d)	$x - 0,4$	7	10
e)	$0,7 \times x$	4,2	9
f)	$0,03 \times x$	0,3	100

4.
 a) $p = 2 \times (7,6 + 3,8) \text{ cm}$
 $= 2 \times (11,4) \text{ cm}$
 $= 22,8 \text{ cm}$
 b) $24 = 2 \times (\ell + 4,8)$
 $12 = \ell + 4,8$
 $7,2 = \ell$
 $\ell = 7,2 \text{ cm}$

c)
 $39 = 2 \times (11,5 + b)$
 $39 = 23 + 2b$
 $16 = 2b$
 $b = 8cm$

5.
 a) $A = l^2$
 $= (0,4)^2 m^2$
 $= 0,16 m^2$
 b) $A = l^2$ & $A = \frac{9}{4} m^2$
 $l^2 = \frac{9}{4} m^2$
 $l = \frac{3}{2} m$

6.
 a)
 $A = \frac{(16,8) \times (12)}{2} cm^2$
 $= 16,8 \times 6 cm^2$
 $= 100,8 cm^2$
 b)
 $\frac{8 \times h}{2} = \frac{49}{2}$
 $8 \times h = 49$
 $h = 6,125 cm$

Section 3 / Afdeling 3

7.
 a) $7x$ b) $7xy$
 c) $5xy^2$ d) $8x^2 y^3$
 e) $\frac{3x}{4}$ f) $\frac{xy}{z}$
 g) $\frac{2x^2}{yt}$ h) $\frac{4x}{y^2 z^3 t}$

12.
 a) 1&1 b) 2&1 c) 2&1
 d) 2&1 e) 1&1 f) 1&1
 g) 2&2 h) 2&2 i) 2&0
 j) 1&1 k) 1&2 l) 2&1

13.
 c) $x + 3$ d) $x - 3$
 e) $3x$ f) $x + 5$
 g) $x - 5$ h) $7x + 2$
 i) $\frac{x}{2} + 6$ j) $xy - t$

14.
 a) $3x + 6$
 b) $x^2 - 4$
 c) $2(x + 2)$
 d) $x^2 + x$

15.
 a) $13 + x$ b) $12 - y$
 c) $15xc$ d) $\frac{90}{y} c$
 e) $100xc$ f) $\frac{x}{100}$
 g) $7y$ h) $\frac{500}{x} km / h$

17.
 a) $15 + 10 = 25$ b) $20 - 12 = 8$
 c) $5 + 8 = 13$ d) $28 - 20 - 2 = 6$

18.
 a) 9 b) 16
 c) 1 d) $3(9) = 27$
 e) $2(16) = 32$ f) $8(1) = 8$
 g) $9 + 16 = 25$ h) $18 - 12 = 6$
 i) $12 + 1 = 13$ j) $3(7) = 21$
 k) $(9)(3) = 21$ l) $27 - 25 = 2$

Section 4 / Afdeling 4

2.
 b) $9 + x = 17$ c) $5x = 30$
 d) $x - 4 = 9$ e) $\frac{8}{x} = 12$
 f) $9 - x = 5$ g) $\frac{x}{2} + 1 = 5$
 h) $7x = x + 8$ i) $2x + 5 = 3x$

4.
 a) $x = 2$ b) $x = 4$ c) $x = 6$
 d) $x = 5$ e) $x = 14$ f) $x = 4$
 g) $x = 5$ h) $x = 14$ i) $x = 8$
 j) $x = 1$ k) $x = 6$ l) $x = 7$

5.
 b) $x = 2$ LHS/ = $x + 7$
 LK = $2 + 7$
 = 9
 = RHS/RK
 c) $x = 2$ LHS/ = $8 - x$
 LK = $8 - 2$
 = 6
 = RHS/RK
 d) $x = 2$ LHS/ = $x + 6$
 LK = $2 + 6$
 = 8
 RHS = $10 - x$
 = $10 - 2$
 = 8
 = LHS

6.
 a) $x = 4$
 LHS = $2(4)$
 = 8
 = RHS
 b) $x = 16$
 LHS = $2(\frac{16}{2})$
 = 8
 = RHS
 c) $x = 6$
 LHS = $12 - 4$
 = 8
 = RHS
 d) $x = 3$
 LHS = $9 + 1$
 = 10
 = RHS
 e) $x = 12$
 LHS = $2(9)$
 = 18
 = RHS
 f) $x = 2$
 LHS = $3(4)$
 = 12
 = RHS

7.
 c)
 $x = 1$ LHS / LK = $1 + 3 \neq 8 \neq$ RHS / RK
 $x = 2$ LHS / LK = $2 + 4 \neq 8 \neq$ RHS / RK
 $x = 3$ LHS / LK = $3 + 5 = 8 =$ RHS / RK
soln/opl. is $x=3$

d)
 $x = 1$ LHS / LK = $1 - 2 + 1 - 3 \neq 1 \neq$ RHS / RK
 $x = 2$ LHS / LK = $2 - 2 + 2 - 3 \neq 8 \neq$ RHS / RK
 $x = 3$ LHS / LK = $3 - 2 + 3 - 3 = 1 =$ RHS / RK
soln/opl. is $x=3$

e)
 $x = 4$
 LHS / LK = $8 + 5 = 13$
 & RHS / RK = $9 + 4$
soln / opl : $x = 4$

f)
 $x = 4$
 LHS / LK = $8 - 3 = 5$
 & RHS / RK = $4 + 1$
soln / opl : $x = 4$

g)
 $x = 1$
 LHS / LK = $6 - 2 = 4$
 & RHS / RK = $5 - 1 = 4$
soln / opl : $x = 1$

h)
 $x = 4$
 LHS / LK = $4(1) - 4 = 0 =$ RHS / RK
soln / opl : $x = 4$

Section 5 / Afdeling 5

2.
 a) B(1;5) C(2;3) D(2;7) E(4;4) F(6;8)
 b) A(5;40) B(15;30) C(10;25) D(20;15)
 E(30;20)

4.

<u>Independent/ Onafhanklike</u>	<u>Dependent/ Afhanklike</u>
a) number of apples/ aantal appels	Cost/ koste
b) number of workmen/ aantal werkers	Time taken/ tyd
c) radius/ omtrek	Circumference/ omtrek
d) speed/ spoed	Time/ tyd
e) x	y

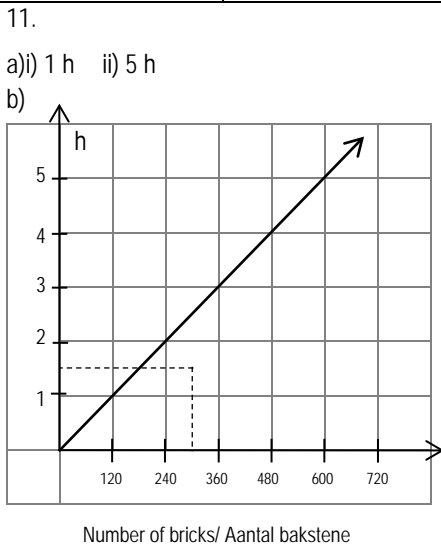
6.
 a) linear, decreasing/ lineêre, dalende
 b) non-linear, decreasing/ nie-lineêre, dalende
 c) linear, increasing/ lineêre, stygende
 d) non-linear, increasing/ nie-lineêre, stygende

7.
 a) 1,5km
 b) 3km
 c) 5min
 d) $s = \frac{1,5km}{15min} = \frac{6km}{60min} = 6km/h$
 e) 55min - 30min = 25min
 f) $s = \frac{1,5km}{25min} = \frac{0,3km}{5min} = \frac{3,6km}{60min} = 3,6km/h$

8.
 a) R25
 b) 1,5 years/jare
 c) R10 on R200 in 1 year/ R10 op R200 in 1 jaar
 R5 on R100 in 1 year/ R5 op R100 in 1 jaar
 r = 5%

9.
 a) 60km
 b) 30km/h
 c) 3h
 d) 20km/h
 e) $s = \frac{60+60km}{2+3h} = \frac{120km}{5h} = 24km/h$

10.
 a) 2min
 b) 1cm
 c) 28cm
 d) 12,5cm
 e) 54min



- c) 300

Section 6/ Afdeling 6

2.
 1 2 1 0 1

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

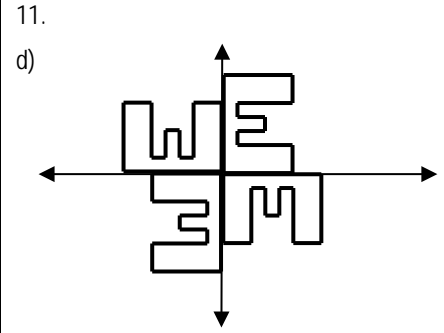
5.
 a) horizontally or vertically shape or size/ horisontaal of vertikaal vorm of grootte
 b) mirror image/ spieëlbeeld
 c) turn it about a fixed point/ om dit om 'n vaste punt te draai

6.
 a) translating/ translasie
 b) reflecting/ refleksie
 c) translating or reflecting/ translasie of refleksie
 d) reflecting / refleksie
-

7.
 a) vertical translation/ vertikale translasie
 b) reflection/ refleksie
 c) horizontal translation/ horisontale translasie
 d) horizontal translation/ horisontale translasie
 e) reflection/ refleksie
 f) rotation/ rotasie

9.
 a) 90°
 b) 4 × 30° = 120°
 c) 7 × 30° = 210°
 d) 10 × 30° = 300°

10.
 a) 180°, 360°
 b) 120°, 240°, 360°
 c) 90°, 180°, 270°, 360°



14.
 a) t = 2
 b) k = 1/2
 c) 2
 d) 4
 e) size/ shape/ grootte/ vorm
 f) similar/ gelykvormige

15.
 d)

	Scale factor/ skaalfaktor	Area/ Opp.
a)	3	9
b)	2	4
c)	1/2	1/4

Section 7/ Afdeling 7

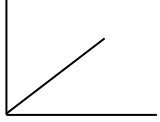
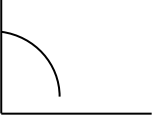
2.
 a) cube/ kubus
 b) triangular-based pyramid/ driehoekige piramide
 c) triangular prism/ driehoekige prisma
 d) square-based pyramid/ vierkantige-basis piramide
 e) pentagonal prism/ pentagonale prisma
 f) hexagonal prism/ heksagonale prisma

3.
 a) 6 faces, 12 edges & 8 vertices/ 6 vlakke, 12 rande & 8 hoekpunte
 faces – rectangles or squares / vlakke – reghoeke of vierkante
 b) lateral faces meet in 1 point / syvlakke ontmoet in 1 punt
 c) bases are triangles/ basisse is driehoeke

4.

	V/H	F/V	E/R	V+F/ H+V	E+2/ R+2
a)	8	6	12	14	14
b)	6	5	9	11	11
c)	8	6	12	14	14
d)	10	7	15	17	17
e)	12	8	18	20	20
f)	16	10	24	26	26

$V + F = E + 2 / H + V = R + 2$

<p>6.</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td></td> <td>V/H</td> <td>F/V</td> <td>E/R</td> <td>V+F/ H+V</td> <td>E+2/ R+2</td> </tr> <tr> <td>a)</td> <td>4</td> <td>4</td> <td>6</td> <td>8</td> <td>8</td> </tr> <tr> <td>b)</td> <td>5</td> <td>5</td> <td>8</td> <td>10</td> <td>10</td> </tr> <tr> <td>c)</td> <td>5</td> <td>5</td> <td>8</td> <td>10</td> <td>10</td> </tr> <tr> <td>d)</td> <td>7</td> <td>7</td> <td>12</td> <td>14</td> <td>14</td> </tr> </table> <p>Yes/ Ja</p> <p>7. d, f, g, h, i</p> <p>8. HI = 60mm, DE = 25mm, RS = 60 mm GS = 25mm & CH = 86mm</p> <p>9. 1 - E 2 - F 3 - C 4 - D 5 - B 6 - A 7 - D 8 - C</p> <p>10. a) 6 squares/ 6 vierkante b) 6 rectangles or 2 squares & 4 rectangles/ 6 reghoeke of 2 vierkante & 4 reghoeke c) 4 triangles/ 4 driehoeke d) 1 rectangle & 2 circles / 1 reghoek & 2 sirkels</p> <p>Section 8/ Afdeling 8</p> <p>1.1</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td></td> <td>4th</td> <td>nth</td> <td>20th</td> </tr> <tr> <td>a)</td> <td>24</td> <td>6n</td> <td>120</td> </tr> <tr> <td>b)</td> <td>26</td> <td>6n + 2</td> <td>122</td> </tr> <tr> <td>c)</td> <td>5⁴</td> <td>5ⁿ</td> <td>5²⁰</td> </tr> <tr> <td>d)</td> <td>64</td> <td>n³</td> <td>20³ = 8000</td> </tr> <tr> <td>e)</td> <td>32</td> <td>2n²</td> <td>800</td> </tr> <tr> <td>f)</td> <td>30</td> <td>n × (n+1)</td> <td>20 × 21 = 420</td> </tr> </table> <p>1.2</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td>Fig.</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>7</td> <td>n</td> <td>15</td> </tr> <tr> <td>No. sides/ kante</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>9</td> <td>n + 2</td> <td>17</td> </tr> <tr> <td>No. diagonals/ hoeklyne</td> <td>0</td> <td>1</td> <td>2</td> <td>3</td> <td>6</td> <td>n - 1</td> <td>14</td> </tr> <tr> <td>No. triangles/ driehoeke</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>7</td> <td>n</td> <td>15</td> </tr> </table> <p>2.1 a) ÷ 3 b) × 4 + 1 c) number² + 1/ d) × 2 - 1 getal² + 1</p> <p>2.2 AC² = AB² + BC² = 5² + 12² cm² = 169 cm² ∴ AC = 13cm</p> <p>3.1 a) 3 & 1 b) 1 & 2 c) 2 & 1 d) 1 & 1</p>		V/H	F/V	E/R	V+F/ H+V	E+2/ R+2	a)	4	4	6	8	8	b)	5	5	8	10	10	c)	5	5	8	10	10	d)	7	7	12	14	14		4 th	n th	20 th	a)	24	6n	120	b)	26	6n + 2	122	c)	5 ⁴	5 ⁿ	5 ²⁰	d)	64	n ³	20 ³ = 8000	e)	32	2n ²	800	f)	30	n × (n+1)	20 × 21 = 420	Fig.	1	2	3	4	7	n	15	No. sides/ kante	3	4	5	6	9	n + 2	17	No. diagonals/ hoeklyne	0	1	2	3	6	n - 1	14	No. triangles/ driehoeke	1	2	3	4	7	n	15	<p>3.2 a) y + 2 b) x² + 3x c) 4y - 6</p> <p>3.3 Expressions/ Uitdrukings : a, b, f Equations/ Vergelykings: c, d, e</p> <p>3.4 a) 3x + 2y = 6 + 1 = 7 b) $\frac{x}{2} - y = 1 - \frac{1}{2} = \frac{1}{2}$ c) x³ + x² = 8 + 4 = 12 d) 3y - y² = $\frac{3}{2} - \frac{1}{4} = 1\frac{1}{4}$</p> <p>4.1 a) x + 2 = 7 ⇒ x = 5 b) x + 1 = 6 ⇒ x = 5 c) x = $\frac{7}{3}$ d) x = 2,5</p> <p>4.2 a) x = 1 LHS / LK = 2(1) + 9 = 11 RHS / RK = 5(1) = 5 x = 2 LHS / LK = 2(2) + 9 = 13 RHS / RK = 5(2) = 10 x = 3 LHS / LK = 2(3) + 9 = 15 RHS / RK = 5(3) = 15 <i>Soln/Opl is x = 3</i> b) x = 1 LHS / LK = 3(1) + 1 = 4 RHS / RK = 5 + 1 = 6 x = 2 LHS / LK = 3(2) + 1 = 7 RHS / RK = 5 + 2 = 7 <i>Soln/Opl is x = 2</i> c) x = 1 LHS / LK = $\frac{1}{3} - 1$ RHS / RK = 0 x = 2 LHS / LK = $\frac{2}{3} - 1$ RHS / RK = 0 x = 3 LHS / LK = $\frac{3}{3} - 1$ RHS / RK = 0 <i>Soln/Opl is x = 3</i></p> <p>5.1 a)  b) </p>	<p>5.2 a) 1,5km b) $s = \frac{1,5km}{1,5min} = 60km/h$ c) 3,5 - 6 min</p> <p>6.1 a) Symmetrical/ simmetries b) the axis of symmetry/ die simmetrie-as c) mirror image/ spieëlbeeld d) 1 e) 3</p> <p>6.2 a) horizontal/ horisontale b) infinite number/ oneindige aantal c) 4 d) 0 e) 6 f) unchanged/ onveranderd g) translation/ translasie h) 9 times/keer</p> <p>6.3 A : $\frac{3}{2}$ or / of 1,5 B: 2</p> <p>6.4 i) a → b reflection / refleksie a → c reflection / refleksie a → d rotation 90° clockwise/ rotasie 90° kloksgewys ii) b → e vertical translation / vertikale translasie b → f reflection / refleksie</p> <p>7.1 a) cube/ kubus b) triangular pyramid/ driehoekige piramide c) triangular prism/ driehoekige prisma d) pentagonal prism/ pentagonale prisma</p> <p>7.2 Congruent/ Kongruent: 1,2,4 Same size & shape / Dieselfde grootte & vorm. Similar/ Gelykvormig: AII 5 / AI 5 Lengths of corresponding sides proportional or Δs equiangular / Lengte van ooreenkomstige sye eweredig of Δe gelykhoekig.</p>
	V/H	F/V	E/R	V+F/ H+V	E+2/ R+2																																																																																							
a)	4	4	6	8	8																																																																																							
b)	5	5	8	10	10																																																																																							
c)	5	5	8	10	10																																																																																							
d)	7	7	12	14	14																																																																																							
	4 th	n th	20 th																																																																																									
a)	24	6n	120																																																																																									
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<p>Term 4/ Kwartaal 4</p> <p>Section 1 / Afdeling 1</p> <p>A</p> <p>1.</p> <p>a) Sutherland b) 16°C c) 9°C d) 2°C</p> <p>3.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">a) <</td> <td style="width: 25%;">b) <</td> <td style="width: 25%;">c) ></td> <td style="width: 25%;">d) ></td> </tr> <tr> <td>e) ></td> <td>f) ></td> <td>g) ></td> <td>h) ></td> </tr> <tr> <td>i) ></td> <td>j) <</td> <td>k) <</td> <td>l) ></td> </tr> </table> <p>4.</p> <p>a) i) 4 ii) 6 iii) 7 b) i) 5 ii) 3 iii) 11</p> <p>5.</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td></td> <td>A</td> <td>B</td> <td>C</td> <td>D</td> </tr> <tr> <td>a)</td> <td>-8</td> <td>-5</td> <td>0</td> <td>1</td> </tr> <tr> <td>b)</td> <td>-15</td> <td>-12</td> <td>-11</td> <td>-8</td> </tr> <tr> <td>c)</td> <td>-133</td> <td>-130</td> <td>-128</td> <td>-125</td> </tr> <tr> <td>d)</td> <td>-12</td> <td>-8</td> <td>-4</td> <td>2</td> </tr> <tr> <td>e)</td> <td>-100</td> <td>-80</td> <td>-20</td> <td>40</td> </tr> <tr> <td>f)</td> <td>-500</td> <td>-400</td> <td>-300</td> <td>-200</td> </tr> <tr> <td>g)</td> <td>-175</td> <td>-150</td> <td>-75</td> <td>-25</td> </tr> <tr> <td>h)</td> <td>-45</td> <td>-27</td> <td>0</td> <td>18</td> </tr> </table> <p>6.</p> <p>a) -18, -17, -15 b) -75, -55, -45 c) -262, -247, -237, -227 d) -126, -120, -118 e) -450, -400, -250, -150 f) -573, -273, -73, 27 g) -26, 1, 10 h) -118, -58, -28, 2</p> <p>7.</p> <p>a) -11, -9, -7 b) -52, -42, -32 c) -22, -2, 18 d) -216, -213, -210 e) -300, -296, -292 f) -593, -584, -575 g) -320, -270, -220 h) -500, -475, -450</p> <p>8.</p> <p>a) -736, -673, -376, -367 b) -957, -795, -759, -597 c) -876, -786, -768, -687 d) -2845, -2584, -2485, -2458</p> <p>9.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">a) -18</td> <td style="width: 33%;">b) -99</td> <td style="width: 33%;">c) -234</td> </tr> <tr> <td>d) -28</td> <td>e) -113</td> <td>f) -252</td> </tr> <tr> <td>g) -88</td> <td>h) -195</td> <td>i) -396</td> </tr> <tr> <td>j) -108</td> <td>k) -219</td> <td>l) -436</td> </tr> </table> <p>B</p> <p>2.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">a) -5</td> <td style="width: 25%;">b) -3</td> <td style="width: 25%;">c) -7</td> <td style="width: 25%;">d) -5</td> </tr> <tr> <td>e) -6</td> <td>f) -5</td> <td>g) -8</td> <td>h) -6</td> </tr> </table>	a) <	b) <	c) >	d) >	e) >	f) >	g) >	h) >	i) >	j) <	k) <	l) >		A	B	C	D	a)	-8	-5	0	1	b)	-15	-12	-11	-8	c)	-133	-130	-128	-125	d)	-12	-8	-4	2	e)	-100	-80	-20	40	f)	-500	-400	-300	-200	g)	-175	-150	-75	-25	h)	-45	-27	0	18	a) -18	b) -99	c) -234	d) -28	e) -113	f) -252	g) -88	h) -195	i) -396	j) -108	k) -219	l) -436	a) -5	b) -3	c) -7	d) -5	e) -6	f) -5	g) -8	h) -6	<p>4.</p> <p>a) ✓ b) ✓ c) ✓ d) ✓ e) ✓ f) ✓ g) ✓ h) ✓</p> <p>5.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">a) 11</td> <td style="width: 25%;">b) -3</td> <td style="width: 25%;">c) 9</td> <td style="width: 25%;">d) -16</td> </tr> <tr> <td>e) -10</td> <td>f) 12</td> <td>g) -16</td> <td>h) 15</td> </tr> <tr> <td>i) -21</td> <td>j) 46</td> <td>k) -44</td> <td>l) -36</td> </tr> </table> <p>7.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">a) 5</td> <td style="width: 25%;">b) -1</td> <td style="width: 25%;">c) -5</td> <td style="width: 25%;">d) 2</td> </tr> <tr> <td>e) -2</td> <td>f) -2</td> <td>g) -2</td> <td>h) -7</td> </tr> <tr> <td>i) -7</td> <td>j) -2</td> <td>k) 5</td> <td>l) 6</td> </tr> <tr> <td>m) -1</td> <td>n) 3</td> <td>o) 4</td> <td>p) -2</td> </tr> </table> <p>8.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">a) 3</td> <td style="width: 25%;">b) 0</td> <td style="width: 25%;">c) 0</td> <td style="width: 25%;">d) -3</td> </tr> <tr> <td>e) -9</td> <td>f) 3</td> <td>g) -3</td> <td>h) -19</td> </tr> <tr> <td>i) 19</td> <td>j) -6</td> <td>k) -3</td> <td>l) -1</td> </tr> <tr> <td>m) 5</td> <td>n) -15</td> <td>o) -7</td> <td>p) -7</td> </tr> </table> <p>9.</p> <table style="width: 100%; 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border-collapse: collapse;"> <tr> <td style="width: 50%;">b) 7 + 4 = 11</td> <td style="width: 50%;">c) 12 + 6 = 18</td> </tr> <tr> <td>d) 18 + 10 = 28</td> <td>e) 26 + 14 = 40</td> </tr> <tr> <td>f) -6 + 2 = -4</td> <td>g) -10 + 3 = -7</td> </tr> <tr> <td>h) -14 + 8 = -6</td> <td>i) -27 + 7 = -20</td> </tr> </table> <p>15.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">c) -6 - 8 + 2 = -12</td> <td style="width: 50%;">d) 7 - 5 + 4 = 6</td> </tr> <tr> <td>e) -2 - 6 + 4 = -4</td> <td>f) 8 - 10 + 3 = 1</td> </tr> <tr> <td>g) -11 + 7 + 1 = -3</td> <td>h) 12 + 3 - 6 = 9</td> </tr> <tr> <td>i) -9 + 4 - 6 = -11</td> <td>j) 14 - 16 + 6 = 4</td> </tr> </table> <p>16.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">a) =</td> <td style="width: 33%;">b) =</td> <td style="width: 33%;">c) =</td> </tr> <tr> <td>d) =</td> <td>e) =</td> <td>f) =</td> </tr> <tr> <td>g) =</td> <td>h) =</td> <td></td> </tr> </table> <p>Yes, Ja</p> <p>17.</p> <p>a) No/ Nee $a - b \neq b - a$ b) No/ Nee c) No/ Nee</p> <p>18.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">c) 6 + 4 = 10</td> <td style="width: 50%;">6 - 10 = -4</td> </tr> <tr> <td>d) -2 + 9 = 7</td> <td>-2 - 7 = -9</td> </tr> <tr> <td>e) -10 + 6 = -4</td> <td>-10 + 4 = -6</td> </tr> <tr> <td>f) -3 - 5 = -8</td> <td>-3 + 8 = 5</td> </tr> </table>	a) 11	b) -3	c) 9	d) -16	e) -10	f) 12	g) -16	h) 15	i) -21	j) 46	k) -44	l) -36	a) 5	b) -1	c) -5	d) 2	e) -2	f) -2	g) -2	h) -7	i) -7	j) -2	k) 5	l) 6	m) -1	n) 3	o) 4	p) -2	a) 3	b) 0	c) 0	d) -3	e) -9	f) 3	g) -3	h) -19	i) 19	j) -6	k) -3	l) -1	m) 5	n) -15	o) -7	p) -7	a) 0	b) 0	c) 0	d) 0	e) 7	f) 10	g) 4	h) -7	i) 11	j) 8	k) -12	l) -8	a) -7	b) 6	c) -14	d) 50	e) 265	f) -1000	b) -4	c) -2	d) -4	e) -5	f) -5	g) 4	h) 1			a) 3	-17	-3	b) -2	-10	2	c) -21	-5	21	d) 43	-43	-9	b) 7 + 4 = 11	c) 12 + 6 = 18	d) 18 + 10 = 28	e) 26 + 14 = 40	f) -6 + 2 = -4	g) -10 + 3 = -7	h) -14 + 8 = -6	i) -27 + 7 = -20	c) -6 - 8 + 2 = -12	d) 7 - 5 + 4 = 6	e) -2 - 6 + 4 = -4	f) 8 - 10 + 3 = 1	g) -11 + 7 + 1 = -3	h) 12 + 3 - 6 = 9	i) -9 + 4 - 6 = -11	j) 14 - 16 + 6 = 4	a) =	b) =	c) =	d) =	e) =	f) =	g) =	h) =		c) 6 + 4 = 10	6 - 10 = -4	d) -2 + 9 = 7	-2 - 7 = -9	e) -10 + 6 = -4	-10 + 4 = -6	f) -3 - 5 = -8	-3 + 8 = 5	<p>19.</p> <p>(a) - (d) both/ altwee Integers can be added in any order/ Heelgetalle kan in enige volgorde bymekaar getel word.</p> <p>20.</p> <p>b) $-6 - 7 = -13$ or/of $-11 - 2 = -13$ c) $5 - 6 = -1$ or/of $2 - 3 = -1$ d) $5 + 3 = 8$ or/of $-2 + 10 = 8$ e) $-12 + 5 = -7$ or/of $1 - 8 = -7$ f) $-1 - 3 = -4$ or/of $-9 + 5 = -4$ g) $-5 - 4 = -9$ or/of $2 - 11 = -9$ h) $2 - 4 = -2$ or/of $10 - 12 = -2$ i) $-4 + 6 = 2$ or/of $16 - 14 = 2$</p> <p>21.</p> <p>a) $R15 - R20 = - R5$ b) i) $-R400 + R150 = - R250$ ii) R300,00 c) i) Ground level/ Grondvlak ii) 3rd underground level/ 3^{de} vlak ondergrond iii) -3 iv) 4</p> <p>Section 2 / Afdeling 2</p> <p>1.</p> <p>a)</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 12.5%;">x</td> <td style="width: 12.5%;">-7</td> <td style="width: 12.5%;">-5</td> <td style="width: 12.5%;">-3</td> <td style="width: 12.5%;">-1</td> <td style="width: 12.5%;">1</td> </tr> <tr> <td>x + 3</td> <td>-4</td> <td>-1</td> <td>0</td> <td>2</td> <td>4</td> </tr> </table> <p>b)</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 12.5%;">x</td> <td style="width: 12.5%;">-6</td> <td style="width: 12.5%;">-4</td> <td style="width: 12.5%;">-2</td> <td style="width: 12.5%;">0</td> <td style="width: 12.5%;">1</td> </tr> <tr> <td>x - 2</td> <td>-8</td> <td>-6</td> <td>-4</td> <td>-2</td> <td>-1</td> </tr> </table> <p>c)</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 12.5%;">x</td> <td style="width: 12.5%;">-4</td> <td style="width: 12.5%;">-2</td> <td style="width: 12.5%;">0</td> <td style="width: 12.5%;">1</td> <td style="width: 12.5%;">4</td> </tr> <tr> <td>-x</td> <td>4</td> <td>2</td> <td>0</td> <td>-1</td> <td>-4</td> </tr> </table> <p>d)</p> <table border="1" style="width: 100%; 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Value/ Waarde	1	3	5	17	2n - 1																																																																																																																																																																																																																																																																																														

4.
a) -1, -3, -5
b) -3, -1, 1
c) -8, -10, -12
d) 1, -3, -7
e) 0, -20, -40
f) -28, -34, -40
g) -25, 0, 25
h) -10, -20, -30

5.

Number of lines/ Aantal lyne	1	2	3	4	n	150
Number of regions/ Aantal streke	2	4	6	8	$2 \times n$	300

6.
a) i) 16 b) i) 100
 ii) 25 ii) n^2
 iii) 100
 iv) n^2
c) i) 9
 ii) 19
 iii) $2n - 1$

7.

Length/ Lengte	1	2	3	4
Perimeter/ Omtrek	4	8	12	16
Area/ Opp.	1	4	9	16

- a) i) $\times 2$ bigger/grooter
ii) $\times 3$ bigger/grooter
b) i) $\times 4$ bigger/grooter
ii) $\times 9$ bigger/grooter

Section 3 / Afdeling 3

1.

	p	t	d
a)	4	10	14
b)	4	10	13
c)	-2	0	3
d)	5	7	9
e)	4	-3	-5
f)	2	2	-2

- 2.
- | | | |
|----------------------|--------------------|-------------------|
| a) -1
1
3 | b) -10
-7
-4 | c) -6
-3
0 |
| d) -20
-16
-12 | e) -1
-3
-7 | f) -4
-5
-6 |

3.

		b	c
a)	$y = -x - 3$	-13	-10
b)	$y = -x + 8$	0	10
c)	$y = 0,2 \times x$	1,4	10
d)	$y = 3x - 2$	22	12
e)	$y = 2^x$	5	7
f)	$y = \frac{1}{2^x}$	6	8

4.
a) At start / Aan die begin $t = 0s$
 $T = (60 - 12 \times 0) ^\circ C$
 $= (60 - 0) ^\circ C$
 $= 60^\circ C$
b) i) $T = (60 - 12 \times 4) ^\circ C$
 $= (60 - 48) ^\circ C$
 $= 12^\circ C$
ii) $T = (60 - 12 \times 6) ^\circ C$
 $= (60 - 72) ^\circ C$
 $= -12^\circ C$

5.
a) $S = 16 - 8(2) + (2)^2 m$
 $= 16 - 16 + 4 m$
 $= 4 m$
b) $S = 16 - 8(4) + (4)^2 m$
 $= 16 - 32 + 16 m$
 $= 0 m$
c) $S = 16 - 8(6) + (6)^2 m$
 $= 16 - 48 + 36 m$
 $= 4 m$

Section 4 / Afdeling 4

1.
a) $5pt$ b) $7p^2t$ c) $-3pt^3$
d) $-8p^7$ e) $\frac{-6p}{t}$ f) $-\frac{4}{pt}$
g) $\frac{t^2p}{3}$ h) $\frac{t-p}{7}$

2.

Terms/ Terme	Variables/ Veranderlikes
a) 2	1
b) 1	1
c) 1	1
d) 2	1
e) 2	2
f) 1	1
g) 1	1
h) 1	1

3.
a) $4y$ b) $y - 5$
b) $y - (-3) = y + 3$ d) $3y + 6$
e) $-1 - \frac{y}{2}$ f) $\frac{y+7}{2}$
g) $y^2 + 2y$ h) $5y - y^2$

4.
a) $x + 2$ years/jaar oud b) $\frac{100x}{27} c$
c) $100x + y m$ d) $\frac{600}{t} km / h$

5.
a) 9
c) $-2 - 4 = -6$
e) $\frac{-2+(-4)}{3}$
 $= \frac{-2-4}{3}$
 $= \frac{-6}{3}$
 $= -2$
b) 27
d) $12 + (-2) - (2) = 8$
f) $27 + 9 = 36$
g) $-2 - (-4)$
 $= -2 + 4$
 $= 2$
h) $6 - 9 = -3$

6.
a) $2(0)^2 - 0 - 14 = -14$
b) $2(2)^2 - 2 - 14 = 2(4) - 14$
 $= 8 - 14$
 $= -8$
c) $2(3)^2 - 3 - 14 = 2(9) - 17$
 $= 18 - 17$
 $= 1$

8.
a) 6 $2 \times 3 = 6$
b) -6 $2 \times (-3) = -6$
c) 12 $3 \times 4 = 12$
d) -12 $3 \times (-4) = -12$
e) -12
f) -15
g) -18

9.
a) -6 b) -6 c) -6 d) -6
e) 16 f) -7 g) -3 h) 0
i) $-\frac{1}{2}$ j) 1

10.
a) $3(-2) - 4 = -6 - 4 = -10$
b) $2(-3) + 1 = -6 + 1 = -5$
c) $3(-1) - 3 = -3 - 3 = -6$

11.
a) $4 + 3(-2) = 4 - 6 = -2$
b) $4(-2 - 1) = 4(-3) = -12$
c) $4(-2) + 2(-1) = -8 - 2 = -10$
d) $5(-1) - 2(-2) = -5 + 4 = -1$

Section 5 / Afdeling 5

1.
Expressions/ Uitdrukings : a, b, e, g
Equations/ Vergelykings : c, d, f, h

2.
b) $y - 7 = 18$
c) $53 - x = 7$ or $x - 53 = 7$
d) $6y = 78$
e) $2x + 4 = 37$
f) $\frac{x}{3} = 14$
g) $3y - 7 = 38$
h) $\frac{x}{2} + \frac{x}{3} = 20$
i) $5y + 6 = 4y + 9$
j) $\frac{x}{4} - 3 = 8$

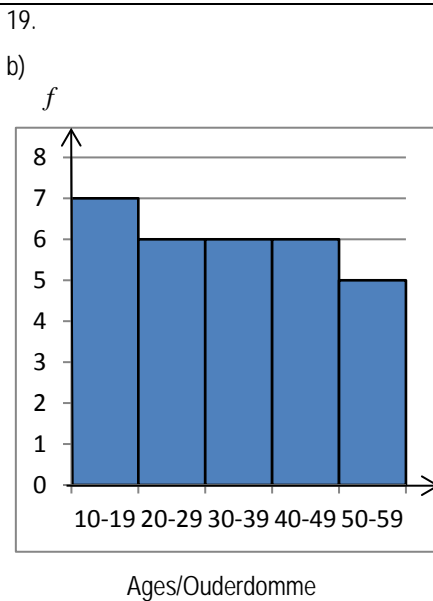
14.
a) 100
b) $10 + 15 + 20 + 50 + 80 = 175$
c) Yes/Ja: $110 + 100 + 105 + 70 + 40 = 425$
Total/Totaal = $425 + 175 = 600$
d) $\frac{425}{600} \times 100\% = 70,8\%$

15.
a) Mercedes
b) Toyota
c) i) $\frac{1}{4}$ ii) $\frac{1}{12}$
d) $\frac{1}{3} \times 72 = 24$

16.
a) No/Nee
b) i)
c) vertical axis scale makes the graph look less steep/ skaal op vertikale-as laat grafiek minder steil lyk.

18.

A/O	Tally/ Telling	f
10 - 19	-	7
20 - 29	-	6
30 - 39	-	6
40 - 49	-	6
50 - 59	-	5



21.
a) 5,5,5,7,8,8,9,9
Median/Mediaan = $\frac{7+8}{2} = 7\frac{1}{2}$
Mode/Modus = 5
b) 11,12,13,13,14,14,14
Median/Mediaan = 13
Mode/Modus = 14
c) 105,111,114,114,116
Median/Mediaan = 114
Mode/Modus = 114

23.
a) Mean/Gem
 $= \frac{6+7+5+8+3+9+6+8}{8}$
 $= \frac{52}{8}$
 $= 6\frac{1}{2}$
Range/Omvang = $9 - 3 = 6$
b) Mean/Gem
 $= \frac{17+12+16+9+12+9}{6}$ yrs/jr
 $= \frac{75}{6}$ yrs/jr
 $= 12\frac{1}{2}$ yrs/jr
Range/Omvang = $17 - 9 = 8$
c) Mean/Gem
 $= \frac{3,16+3,02+3,42+3,24+3,66}{5}$ cm
 $= \frac{16,5}{5}$ cm
 $= 3,3$ cm
Range/Omvang = $3,66 - 3,02 = 0,64$

- Section 7 / Afdeling 7**
2.
a) 1, 2, 3, 4, 5, 6
b) { 1 ; 2 ; 3 ; 4 ; 5 ; 6 }
c) n(S) = 6

4.
a) answer will differ/ antwoord sal verskil
b) the larger the number of rolls, the closer the rel. freq. will be to $\frac{1}{6}$ / hoe groter die aantal kere gerol, hoe nader sal die rel. frekw. wees aan $\frac{1}{6}$
c) Yes/Ja

5.
b) the larger the number of rolls, the closer the rel. freq. will be to $\frac{1}{4}$ / hoe groter die aantal kere gerol, hoe nader sal die rel. frekw. wees aan $\frac{1}{4}$

6.
a) $\frac{1}{6}$ b) $\frac{1}{6}$ c) 0
d) $\frac{3}{6} = \frac{1}{2}$ e) $\frac{3}{6} = \frac{1}{2}$ f) $\frac{3}{6} = \frac{1}{2}$

8.
a) Red/Rooi
b) i) 0 ii) $\frac{1}{5}$

9.
a) $\frac{1}{4} \times 12 = 3$
b) $\frac{2}{3} \times 12 = 8$

10.
a) 52
b) Hearts & Diamonds/ Hartens & Riutens
c) Clubs & Spades/ Klawers & Skoppens
d) 2, 3, 4, 5, 6, 7, 8, 9, 10
e) Jack, Queen, King, Ace/ Boer, Vrou, Heer, Aas
f) i) $\frac{26}{52} = \frac{1}{2}$ ii) $\frac{13}{52} = \frac{1}{4}$
iii) $\frac{4}{52} = \frac{1}{13}$ iv) $\frac{4}{52} = \frac{1}{13}$

11.
 $1 - \frac{7}{9} = \frac{2}{9}$

Section 8 / Afdeling 8

- A.**
1.
a) 1, 2, 3, 6, 9, 18
b) $2 + 3$
c) 28
d) 1
e) $5 \times 11 = 55$
f) 2, 3, 5, 7, 11, ...
g) $9^2 = 81$
h) $\sqrt{9} = 3$
i) $4^3 = 64$ $4^2 = 16$
j) 9847; 9347; ... (-500)
k) 10101
l) $125 + 25 + 15 = 165$
m) $\sqrt{16} = 4$
n) $73 \times (100 - 1) = 7300 - 73 = 7227$
o) $6528 \div 12 \div 4 = 544 \div 4 = 136$

2.
a) 5
b) 83

3.
a)
 $\frac{7}{4} = \frac{21}{12} \cdot \frac{5}{3} = \frac{20}{12} \cdot \frac{11}{6} = \frac{22}{12}$
 $1\frac{2}{3} < 1\frac{3}{4} < 1\frac{5}{6}$
b) frac/breuk = $\frac{8\cancel{\beta} \text{ min}}{24 \times 6\cancel{\beta} \text{ min}} = \frac{1}{18}$
c) No./Getal
 $= (\frac{5}{2} + \frac{13}{4}) \div 2$
 $= \frac{23}{4} \div 2$
 $= \frac{23}{8}$
 $= 2\frac{7}{8}$
d) i) 13; $15\frac{1}{2}$; ... ($+2\frac{1}{2}$)
ii) 6; 3; $\frac{3}{2}$; $\frac{3}{4}$; $\frac{3}{8}$; ... ($\div 2$)

4.
a) $\frac{9}{12} + \frac{11}{12} = \frac{20}{12} = 1\frac{2}{3}$
b) $\frac{17}{24} - \frac{15}{24} = \frac{2}{24} = \frac{1}{12}$
c) $\frac{22}{5} \times \frac{15}{2} = 33$
d) $\frac{3}{8} \times \frac{8}{5} + \frac{2}{5} = \frac{3}{5} + \frac{2}{5} = 1$
e) $\frac{3}{8} \times 2 = \frac{3}{4}$
f)
 $(\frac{7}{2} + \frac{7}{3}) \times (\frac{7}{5} - \frac{4}{5})$
 $= (\frac{21}{6} + \frac{14}{6}) \times \frac{3}{5}$
 $= \frac{35}{6} \times \frac{3}{5}$
 $= 3\frac{1}{2}$

5.
a) $\frac{2}{5}$ money/geld = R14,60
 $\frac{1}{5}$ money/geld = R7,30
 $\frac{5}{5}$ money/geld = R36,50

- b) $\frac{5}{11}$ learners/leerders = 20
 $\frac{1}{11}$ learners/leerders = 4
 $\frac{11}{11}$ learners/leerders = 44

6.
 a) $\frac{7}{9} \times \frac{18}{5} - \frac{3}{2} = \frac{28}{10} - \frac{15}{10} = 1\frac{3}{10}$
 b) *dist / afstand in 1 h* = 114 km
dist / afstand in $11\frac{2}{3}h$ = $114 \times \frac{35}{3} km$
 = $38 \times 7 \times 5 km$
 = $266 \times 5 km$
 = 1330 km

7.
 a) 0,4 b) 0,6 c) 0,35 d) 0,65
 e) 0,46 f) 0,62 g) 0,52 h) 0,84
 i) 0,3 j) 0,6 k) 0,16 l) 0,09

8.
 a) $\frac{63}{100}$ b) $\frac{75}{100} = \frac{3}{4}$
 c) $\frac{8}{10} = \frac{4}{5}$ d) $\frac{125}{1000} = \frac{1}{8}$
 e) $\frac{625}{1000} = \frac{5}{8}$ f) $\frac{4}{100} = \frac{1}{25}$
 g) $\frac{8}{1000} = \frac{1}{125}$ h) $\frac{15}{100} = \frac{3}{20}$

9.
 a) i) 7600 ii) 7562,3
 iii) 7562,35
 b) i) 9805,0 ii) 10000
 iii) 9804,965 iv) 9804,97

10.
 a) 10,38 b) 86,401
 c) 2,656 d) 18,832

11.
 a) 0,4 b) 0,026 c) 0,12
 40,7 0,0943 0,40
 26 0,0648 0,84
 d) 0,015 e) 0,0063 f) 0,03
 0,032 0,1596 0,061
 0,938 0,0506 0,544
 g) h) i)
 $3 \times 4 = 12$ $0,834 \div 2 = 0,417$ 0,73
 $140 \times 2 = 280$ $0,6519 \div 3 = 0,2173$ 3,73
 $1670 \times 5 = 8350$ $2,176 \div 8 = 0,272$ 0,816

12.
 a) 9,78 b) 1612,034
 c) 3,0 d) 251,72

13.
 a) 0,63 b) $2 - 0,9 = 1,1$
 c) $0,09 \times 100 = 9$ d) $0,0144 + 0,006 = 0,0204$

14.
 a) Mass/Massa
 = $0,994 \times 50 kg$
 = 49,70 kg
 b) $l = 58 - 8 \times 5,37 m$
 = $58 - 42,96 m$
 = 15,04 m

- c) Cost/Prys
 = $R2,47 \times 1,2$
 = R2,96
 d) Dist./Afstand
 = $882 \div 90 km$
 = 9,8 km

15.

a) $\frac{1}{2}$	0,5	50%
b) $\frac{1}{4}$	0,25	25%
c) $\frac{3}{5}$	0,6	60%
d) $\frac{3}{8}$	0,375	$37\frac{1}{2}\%$
e) $\frac{9}{20}$	0,45	45%
f) $\frac{1}{3}$	0,3	$33\frac{1}{3}\%$
g) $\frac{7}{8}$	0,875	$87\frac{1}{2}\%$
h) $\frac{5}{8}$	0,625	$62\frac{1}{2}\%$

16.
 a) $\frac{720c}{1200c} = \frac{6}{10} = \frac{60}{100} = 60\%$
 b) $\frac{108}{150} = \frac{36}{50} = \frac{72}{100} = 72\%$

17.
 a) $\frac{3}{4} \times 348 km = 261 km$
 b) $\frac{2}{3} \times R842,40 = R561,60$

- B.**
 1.
 a) DC b) AE
 c) i) acute/ skerp \angle ii) obtuse/ stomp \angle
 d) i) parallelogram ii) trapezium/trapesium
 e) diagonal/ hoeklyn f) isosceles Δ /
 g) convex/ konveks gelykbenige Δ

2.
 a) congruent/ kongruente
 b) similar/ gelykvormige
 c) is congruent to/ is kongruent aan
 d) is similar to/ is gelykvormig aan
 e) 3
 f) 2
 g) 180°
 h) square or rhombus/ vierkant of ruit
 i) a regular hexagon/ reëlmatige seshoek

3.
 i) a & f
 ii) c & e

4.
 a)
 $x = 180^\circ - 38^\circ$ (ABC straight/gestreekte \angle)
 = 142°
 b)
 $x = 360^\circ - 38^\circ$ (revolution/omwenteling)
 = 322°

- c)
 $\hat{A} = \hat{C} = x$
 (\angle opp equal sides Δ / \angle teenoor gelyke sye Δ)
 $2x + 90^\circ = 180^\circ$
 (sum \angle s of $\Delta = 180^\circ$ / som \angle e van $\Delta = 180^\circ$)
 $2x = 90^\circ$
 $x = 45^\circ$

5.
 a) 320mm² b) 6550mm²
 76300cm² 880000cm²
 85000m² 2,385ℓ
 64,35cm² 9400ℓ
 1,0573m² 466cm³
 1,575ha 54,2mℓ
 14370ha 7000cm³

6.
 a) $2 \times (l + b)$
 b) $l \times b$
 c) l^2 sq.units/vk eenhede
 d) $\frac{b \times h}{2}$
 e) area of base \times h/ basis opp. \times h
 f)
 $2 \times l \times b + 2 \times (l + b) \times h$
 or/of
 $2 \times (l \times b + l \times h + b \times h)$
 g)
 area of base \times h/ basis opp \times h
 or/of
 $\frac{1}{2} b \times h \times Ht$

7.
 a)

i)	6cm	4cm	20cm	24cm ²
ii)	7m	9m	32m	63m ²
iii)	0,8cm	3cm	7,6cm	2,4cm ²
iv)	5,5cm	3,5cm	18cm	$19\frac{1}{4}cm^2$

b)

i)	8cm	8cm	32cm	64cm ²
ii)	12mm	12mm	48m	144mm ²
iii)	11mm	11mm	44cm	121mm ²
iv)	13mm	13mm	52cm	169mm ²

8.

a)

$$A / Opp = \frac{b \times h}{2} = \frac{QR \times PR}{2}$$

$$= \frac{8 \times 6,4}{2} cm^2$$

$$= 25,6 cm^2$$

b)

$$A / Opp = \frac{b \times h}{2} = \frac{PR \times QA}{2}$$

$$= \frac{3 \times 8}{2} cm^2$$

$$= 12 cm^2$$

c)

$$A / Opp = \frac{b \times h}{2} = \frac{PQ \times RT}{2}$$

$$= \frac{9 \times 5}{2} cm^2$$

$$= 22,5 cm^2$$

9.

a) i) $400 \times b = 28000$
 $b = 70m$
 ii) $P/O = 2 \times (l + b) = 2 \times 470m = 940m$
 Cost/Koste = $R160 \times 940$
 $= R16 \times 9400$
 $= R4 \times 37600$
 $= R150 400$

b) No. tiles/ Aantal teëls

$$= \frac{450cm \times 440cm}{15cm \times 15cm}$$

$$= 880$$

10.

a) its volume/ sy volume
 b) its capacity/ sy inhoud
 c) area of base $\times h$ / basis opp $\times h$
 d) $1m\ell$

11.

a)

$$Vol = \frac{5}{2} \times \frac{5}{2} \times \frac{5}{2} cm^3$$

$$= \frac{125}{8} cm^3$$

$$= 15\frac{5}{8} (15,625) cm^3$$

b)

$$Vol = l \times b \times h$$

$$= 9 \times 4 \times 2 cm^3$$

$$= 72 cm^3$$

c)

$$Vol = \frac{b \times h}{2} \times Ht$$

$$= \frac{4 \times 7}{2} \times 2 cm^3$$

$$= 28 cm^3$$

12.

a)

$$Vol = l \times b \times h$$

$$= 150 \times 80 \times 120 cm^3$$

$$= 1440000 cm^3$$

No. $m\ell$ / Aantal $m\ell = 144 0000 m\ell$
 No. ℓ / Aantal $\ell = 1440\ell$

b)

$$Area / Opp \times ht = Vol$$

$$Area / Opp \times 45cm = 1125cm^3$$

$$Area / Opp = \frac{1125}{45} cm^3$$

$$= 25cm^2$$

13.

a)

$$S.Area / B Opp = 2 \times (l \times b + l \times h + b \times h)$$

$$= 2 \times (65 \times 40 + 65 \times 25 + 40 \times 25) cm^2$$

$$= 2 \times (2600 + 1625 + 1000) cm^2$$

$$= 2 \times 5225 cm^2$$

$$= 10450 cm^2$$

b)

$$Vol = 15\frac{5}{8} cm^3$$

$$l^3 = \frac{125}{8} cm^3 = \frac{5^3}{2^3} cm^3$$

$$l = \frac{5}{2} cm$$

$$Area / Opp = 6 \times \frac{5}{2} \times \frac{5}{2} cm^2$$

$$= \frac{75}{2} cm^2$$

$$= 37,5 cm^2$$

C.

1.

a) $\frac{R36}{R84} = \frac{3}{7}$	b) $\frac{10}{12} : \frac{11}{12} = 10 : 11$
c) $\frac{28}{98} = \frac{2}{7}$	d) $\frac{8}{12} : \frac{9}{12} = 8 : 9$

2.

a) Cost/Koste 5kg = R25,80
 Cost/Koste 1kg = R5,16
 Cost/Koste 6kg = R30,96

b) i) $\frac{1}{4}$ dist./afstand = 136km
 $\frac{1}{8}$ dist./afstand = 68km
 ii) $\frac{4}{4}$ dist./afstand = 544km
 $\frac{1}{5}$ dist./afstand = 108,8km

c) A's share/deel = $\frac{5}{12} \times R408 = R170$
 B's share/deel = $\frac{7}{12} \times R408 = R238$

d) Price/Prys 6 = R4,86
 Price/Prys 36 = R4,86 $\times 6 = R29,16$
 Cheaper/Goedkooper: R28,96 for/vir 36

3.

a) 2	7	12	17	22	
b) 8	15	22	29	36	
c) 8	16	24	32	80	$8 \times n$
d) 4	7	10	13	61	$3n+1$

4.

a)

$$111111 \times 111111 = 12345654321$$

$$1111111 \times 1111111 = 1234567654321$$

b)

$$1234 \times 9 + 5 = 11111$$

$$12345 \times 9 + 6 = 111111$$

Palindromic/ Palindromiese

5.

$33\frac{1}{3}\%$	9,8
$4\frac{1}{2}$ or/of 4,5	$8\frac{4}{7}$
72	108

6.

a) 16 $\frac{4}{9}$ $\frac{9}{4} \times \frac{2}{3} = \frac{3}{2}$	b) 12 0,45 0,027
--	------------------------

D.

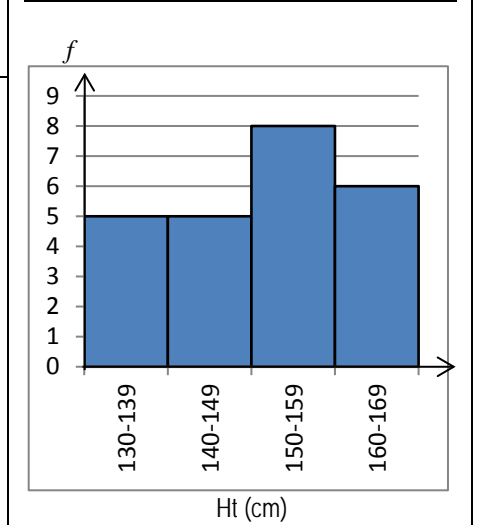
1.

a) $\alpha = 45^\circ, \beta = 90^\circ, \theta = 135^\circ$
 b) 25%
 c) $\frac{1}{4} \times 400 = 100$
 d) $\frac{135^\circ}{360^\circ} = \frac{3}{8} \times 100\% = 37\frac{1}{2}\%$
 e) $\frac{1}{8} \times 400 = 50$

2.

a)

	Tally marks/ Telmerkië	f
130 - 139	+++-	5
140 - 149	+++-	5
150 - 159	+++ I III	8
160 - 169	+++ I	6
	Total/Totaal	24



b) Mean ht./ Gem. ht

$$= 3621 \div 24cm$$

$$\approx 150,9cm$$

3.

a)

S	Leaves/ Blare	S	Leaves/ Blare
2	5 8	2	5 8
3	2 4 4 0 7	3	0 2 4 4 7
4	0	4	0

b) $40 - 25 = 15$
 c) 34
 d) median/mediaan = $\frac{32+34}{2} = 33$



4.

a) i) $\frac{1}{5}$ ii) $\frac{3}{5}$ iii) $\frac{2}{5}$

b) i) $\frac{24}{100} = \frac{6}{25}$ ii) $1 - \frac{6}{25} = \frac{19}{25}$

iii) $1 - \frac{10}{100} = \frac{9}{10}$

5.

i) c ii) a

iii) c iv) b