Western Cape Government

Western Cape Education Department
Directorate: Curriculum FET

MATHEMATICAL LITERACY WISKUNDIGE GELETTERDHEID

REVISION BOOKLET MEMORANDUM

2024 TERM / KWARTAAAL 2

Grade / Graad 11

MAPS AND PLANS / KAARTE EN PLANNE

A. QUESTION / VRAAG 1	

1.1	6 blocks = 3 cm
	Scale 1:100
	      3: 3 × 100
	      3: 300
	Length = 300 cm
	     = 3 m

1.2	16 blocks × 13 blocks 8m × 6,5 m
1.3	2 blocks = 1m

1.4	Perimeter = 2(l + b)
	         = 2(8 + 6,5)
	         = 29 m

1.5	5 blocks × 4 blocks Area = 2,5 m × 2 m = 5 m^2
B. QUESTION / VRAAG 1	
1.1	15 learner / 15 leerders
1.2	From table O turn right and walk straight up the aisle, than after table B turn left and go straight out the door.
1.3	1 unit on the paper represents 50 units in reality. 1 eenheid op die papier verteenwoordig 50 eenhede in die regte lewe.
1.4	Next to the bookshelf or next to table O. / Langs die boekrak of tafel O.
1.5	Learner C / Leerder C

1.6	15cm × 50 =750 cm ÷ 100
	            = 7,5 m
	OR
	15cm ×10 = 150mm
	1: 50
	150:?
	150 × 50 = 7 500mm ÷1 000
	        =7,5m

	QUESTION / VRAAG 2
2.1	Number scale and Bar scale / Nommerskaal en Staafskaal
2.2	Number scale: • More convenient to work with when working with small scale. • Provide more accurate lengths and distances in reality compared to bar scales. • Any units e.g. cm, mm, m can be used when using a number scale, which can then be converted to another appropriate unit e.g. km. • Give more realistic idea about the relationship between the size of the model and the actual size of the object. Bar scale: • Can be used to determine the actual lengths and distances without doing many calculations. • It is quick and relatively easy to use. • When maps and plans are re-sized, the bar scale is also re-sized and remains accurate.
2.3	North East or NE / Noord-Oos of NO
2.4	Gonubie, Tainton, Toleni, KwaNodofosi
2.5	South West or SW /Suid-Wes of SW
2.6	$12 \times 10 = 120cm$ $120 \times 1\ 750\ 00$ $=210\ 000\ 000 \div 1\ 000\ 000$ $= 21$ km
	QUESTION / VRAAG 3
3.1	Entrance 3 / Ingang 3
3.2	North West or NW / Noordwes of NW
3.3	Enter in entrance 3, go straight up, turn left at the corner store and go straight. Woolworths will be on your right hand side next to Pick n Pay store.
3.4	$50cm \times 100 = 5000cm$ $5000cm \div 100 = 50m$
	QUESTION / VRAAG 4
4.1	Three / Drie
4.2	Bontebok and Tsitsikamma National Parks

4.3	BEAUFORT WEST
4.4	DIRECTIONS • From left of Ladysmith take R323 to the N2 • Turn left on the N2 • Go straight with N2 to port Elizabeth • From port Elizabeth take R335 Go straight until you see Addo Elephant park
4.5	Route one Distance = 46km + 50km +29km +146km

FINANCE / FINANSIES

A. QUESTION / VRAAG 1	
1.1.1	$\text{Interest} = \dfrac{4,8}{100} \times R8\,500$ $\qquad = R408 \text{ per annum}$ $\text{Total interest over 3 years} = 3 \times R408$ $\qquad\qquad\qquad\qquad = R1\,224$
1.1.2	$Total\ paid = loan + interest$ $\qquad\qquad = R8\,500 + R1\,224$ $\qquad\qquad = R9\,724$
1.2.1	$Interest = \dfrac{8}{100} \times R20\,600 \times 7$ $\qquad = R1\,648 \times 7 \text{ Years}$ $\qquad = R11\,536$
1.2.2	$\text{Total} = \text{principal} + \text{interest}$ $\qquad = R20\,600 + R11536$ $\qquad = R32\,136$
1.3	YEAR 1: $Accum.\,amount = \dfrac{112}{100} \times 3000$ $\qquad\qquad\qquad = R\,3\,360$ YEAR 2: $\text{Accum. Amount} = \dfrac{112}{100} \times 3\,360$ $\qquad\qquad\qquad = R\,3\,763,20$

	YEAR 3 Accum. Amount $= \frac{112}{100} \times 3\,763,20$ $\qquad = R\,4\,214,78$ YEAR 4 Accum. Amount $= \frac{112}{100} \times 4\,214,78$ $\qquad = R4720,55$ It will take Odwa 4 years
1.4	After six months Accum.Amount $= \frac{5,5 \div 2}{100} \times R1\,240 + R1240$ $\qquad = R1\,274,10$ After one year Accum.Amount $= \frac{5,5 \div 2}{100} \times R1\,274,10 + R1\,274,10$ $\qquad = R1\,309,14$
1.5	A = R650 + R75 $\quad$ = R725 B = R725 + R75 $\quad$ = R800 C $= \frac{115}{100} \times 661,25$ $\quad$ = R760,44 D $= \frac{115}{100} \times 760,44$ $\quad$ = R874,50
B. QUESTION / VRAAG 1	
1.1	$\frac{15}{100}$ X R132 180 = R19 827,00
1.2	Loan amount = cash price – deposit $\qquad$ = R132 180 – R19 827 $\qquad$ = R112 353
1.3	Loan factor $\qquad$ = 21,49 (the value for 10,5% for 5 years) Monthly amount = R112 353 ÷ 1 000 × 21,49 $\qquad$ = R2 414,47
1.4	Total Amount = Deposit + Total monthly amounts + balloon payment

	= R19 827 + R2 414,47 × 60 + R0 = R19 827 + R144 868,20 + R0 = R164 695,20

1.5	Interest = Total Amount paid – Cash amount
	       = R164 695,20 – R132 180
	       = R32 515,20

QUESTION / VRAAG 2	

2.1	Interest $= \frac{15}{100} \times 3\,999$
	        = R599,85
	
	Interest for 3 years = R599,85 × 3
	
	          = R1 799,55
	
	Total to be paid = R 3 999 + R150 + R1 799,55
	
	        = R5 948,55

2.2	YEAR 1:
	Accumulated amount $= \frac{105}{100} \times 3\,999$
	        = R4 198,95
	
	YEAR 2
	Accumulated amount $= \frac{105}{100} \times 4\,198,95$
	
	        = R4 408,90
	YEAR 3
	Accumulated amount $= \frac{105}{100} \times 4\,408,90$
	
	        = R4 629,34

2.3	Option 2 , because it is cheaper than the other option 1 by R1 319.21
QUESTION / VRAAG 3	
3.1	20 years
3.2	= R1 250 000 x 20% = R250 000 = R1 250 000 – R250 000 = R1 000 000

3.3	$$\text{Monthly repayment} = \frac{1\,000\,000}{1\,000} \times 10{,}32$$ $$= \text{R10 320}$$
3.4	= R10 320 x 12 x 20 = R123 840 x 20 = R2 476 800,00
3.5	= R2 476 800 – R1000 000 = R1 476 800,00
C. QUESTION / VRAAG 1	
1.1	Cost of bread in February 2018 = R13.99 ÷ 1.049 = R13.33651096 = R13.34 or Cost = R13.99 ÷ $\frac{100}{104.9}$ = R13.33651096 = R13.34
1.2	It means there is a decrease in price of the product.

DATA HANDLING / DATAHANTERING

A. QUESTION / VRAAG 1	
1.1	Twice, it was the girl's team. Twee keer, dit was die meisies span.
1.2	40 – 49 points per game / 40 – 49 punte per wedstryd.
1.3	50 – 59 points per game / 50 – 59 punte per wedstryd.
1.4	20 – 29 points per game / 20 – 29 punte per wedstryd.
1.5	A grouped frequency table cannot give you the exact points scored as it is divided into intervals, so we only have an idea of how many times it was in the range of the interval. 'n Gegroepeerde frekwensietabel kan nie vir jou 'n presiese waarde van 'n datawaarde gee nie, dit kan slegs vir jou 'n idee gee hoeveel keer daar data waardes in die interval was.
B. QUESTION / VRAAG 1	

1.1	**a:** 6 509 300	**b:** 2 696 710	**c:** 20,3%
	d: 9 763 950	**e:** 11,6%	**f:** 3 254 650
	g: 8,2%	**h:** 1,6%	**i:** 4 742 490

1.2.1	Kwazulu – Natal
1.2.2	Northern Cape / Noord-Kaap
1.2.3	Mpumalanga & North West; Kwazulu – Natal & Gauteng / Mpumalanga & Noordwes; Kwazulu – Natal & Gauteng

C. QUESTION / VRAAG 1

1.1	**a)** $Mean = \dfrac{500+450+350+750+350+450+750+450+400+300}{10}$
	$Mean = \dfrac{4750}{10}$
	$Mean = R475$
	b) R300; R350; R350; R400; R450; R450; R450; R500; R750; R750
	$Median = \dfrac{450+450}{2}$
	$Median = R450$
	c) $Mode = R450$

1.2	The median and the mode gives the most useful indication of the weekly wage. Majority of the workers earn wages that are similar to these values. Die mediaan en die modus gee die mees realistiese aanduiding. Dit is die loon wat die meerderheid van die werkers verdien en die meeste van die werkers verdien lone wat soortgelyk is aan hierdie waardes.
1.3	The mean weekly average provides an unrealistic indication of the average wage. Only 3 workers earn more than R450 per week, but the mean average was R475. This is because of the R750 wages that two workers earn, it positively skews the mean. Die gemiddelde weeklikse loon is 'n onrealistiese aanduiding as die gemiddelde loon. Slegs 3 werkers verdien meer as R450 per week maar die gemiddelde waarde was R475 per week. Dit is as gevolg van die R750 lone wat twee werkers verdien. Hierdie waardes die gemiddelde loon opwaarts gestoot.

QUESTION / VRAAG 2

2.1	$Mean = \dfrac{220 + 90 + 830 + 195 + 95 + 150 + 120 + 370 + 700}{9}$
	$Mean = \dfrac{2770}{9}$
	$Mean = R307,78 \, per \, year$
2.2	R90; R95; R120; R150; R195; R220; R370; R700; R830

	Median = R195 Province = Kwazulu–Natal
2.3	The mode refers to the value that appears the most, more than any others, in this instance all of the values appear the same amount of times, therefor there is no mode in the scenario. Die modus verwys na die waarde wat die meeste voorkom, meer as enige van die ander. In hierdie voorbeeld is daar geen waarde wat meer as 'n ander waarde voorkom nie. Daar is dus geen modus in hierdie voorbeeld nie.
2.4	$Range = maximum\ value - minimum\ value$ $Range = R830 - R90$ $Range = R740$ $Variasiewydte = maksimum\ waarde - minimum\ waarde$ $Variasiewydte = R830 - R90$ $Variasiewydte = R740$

FINANCE:
TARIFF SYSTEMS

QUESTION / VRAAG 1	
1.1	Sunday
1.2	29 ºC
1.3	29 ºC - 22 ºC = 7 ºC
1.4	ºF = (1.8 x 21) + 32 = 69.8 ºF = 70 ºF
QUESTION / VRAAG 2	
2.1	Number of trips $= \frac{300}{10} = 30$

2.2	Number of trips $= \frac{300}{7}$ $= 42.857$ $= 43$
2.3	Indirect proportion When the volume of the soil in the container decrease, the number of trips increase. Therefore, proportion is indirect.
2.4.1	Number of trips $= \frac{300}{150}$ $= 2$
2.4.2	Wheelbarrow Less trips will be made therefore it saves time. **OR** Bucket Lighter than the wheelbarrow therefore less effort.

QUESTION / VRAAG 3

3.1	80 yards*t* $\div$ 1,0936 $= 73,15$ m
3.2	Soccer field $=$ length $\times$ width $= 110$ m $\times$ 73,15 m $= 8\ 046,50$ m^2
3.3	Grass blocks $= 150$ cm $\times$ 80 cm $= 12\ 000$ cm^2 $\approx 1,2$ m^2 Number $= 8\ 046,50 \div 1,2$ $\qquad\qquad = 6\ 705,41$ $\qquad\qquad = 6\ 706$
3.4	Radius $= 14,64 \div 2$ $\qquad\quad = 7, 32$ m

QUESTION / VRAAG 4

4.1	Number of boxes $= \frac{650}{30}$

	$= 21.66$ $=22$
4.2	Height $= 1,5$ x 15cm $= 22,5/100$ $= 0.225$
4.3	Volume = length x width x height $0.003m^3 = 0.15m$ x width x $0.225m$ $0.003m^3 = 0.03375$ x width Width = 0.089m
4.4	Cost = 22 x R79,50 $= R1749$
QUESTION / VRAAG 5	
5.1	$5000l$
5.2	The diameter is the line that divides the circle into TWO equal parts whilst the radius is the line drawn from the centre to the circumference. The radius is half of the diameter.
5.3	$1,7m \div 2$ $= 0,85m$
5.4	$Volume = \pi \times r^2 \times \text{height}$ $=3,142 \times (0,85\text{m})^2 \times 2,2m$ $=4,994209 \text{ m3} \times 1000$ $=4994,209l$ $V = 80\% \text{ X } 4994,209l$ $= 3995,3672l$
5.5	Volume = S x S x S $= 1,8m$ x $1,8m$ x $1,8m$ $= 5.832m^3$ His claim is incorrect.
QUESTION / VRAAG 6	
6.1	Area = 10,5m x 10m $= 105m^2$

	$\dfrac{105}{16} \times 2$ = 6,563 x 2 = 13, 125*L* = 14 L
6.2	OPTION 1 1L × 14 = 180 × 14 =R2520 OPTION 2 (5L × 2) + (1L× 4) (R850 × 2) + (R180 × 4) =R1700 + R720 =R2420 Therefore option 2 is cost effective.
6.3	Labour cost = (R35 x 105m^2) + R2420 = R 3675 + R 2420 = R 6095
6.4	P= 2(L +W) = 2(10,5m +10m) = 41m $\dfrac{41}{3}$ = 13,67 = 14 fascia boards