LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

CAPRICORN SOUTH DISTRICT

MATHEMATICAL LITERACY

GRADE 10

ASSIGNMENT NO 1

DATE: 17 February 2022

ACTUAL WRITING DATE: 21 February 2022

DURATION: 1 HOUR

MARKS: 50

This question paper consists of 07 pages.

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INSTRUCTIONS AND INFORMATION:

1. This question paper consists of THREE questions. Answer ALL the questions.

2. Number the questions correctly according to the numbering system used in this question paper.

3. Start EACH question on a NEW page.

4. You may use an approved calculator (non-programmable and non-graphical), unless stated otherwise.

5. Show ALL calculations clearly.

6. Round ALL the final answers appropriately according to the context, unless stated otherwise.

7. Indicate units of measurement, where applicable.

8. Maps and diagrams are NOT necessary drawn to scale, unless stated otherwise.

9. Write neatly and legibly.

QUESTION 1

1.1

Danny and Refilwe are amateur photographers who attended the 2021 CAF Championship in Cameroon. The small business that they start together needed an initial investment. Danny invests R2 700 and Refilwe invests R4 200.

They decided to divide the profit in the same ratio as their investments. They make a profit of R3 400.

Use the information above to answer the questions that follow.

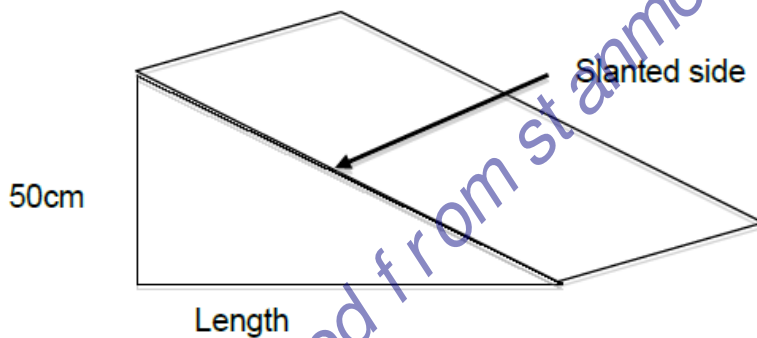1.1.1   Determine the ratio of their investment (in simplest form).   (3)

1.1.2   Calculate how much profit each partner will make.   (4)

1.2

Danny and Refilwe have donated two-third of their profit to Setotolwane Elsen from July to December 2021. A school wants to build a ramp for wheel chairs.

The picture below shows the type and size of the ramp.

Use the information above to answer the questions that follow.

1.2.1   Calculate the total amount of money donated to the school.   (3)

1.2.2   If the ratio of the vertical side to the horizontal side (length) of the ramp is 1: 12, then calculate the length of the ramp (answer in cm)   (3)

1.2.3   Calculate the length (to the nearest centimetre) of the slanted side.   (4)

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1.3

Betty and Valencia have opened a mini tuck Shop next to Campus to supplement their wages by selling Fish and Chips. Table 1 below shows cost rates of potatoes from two supermarkets, excluding VAT.	
Supermarket A	Supermarket B
R20 per 4,5 kg	1,8 kg pocket per R8

Use the information above to answer the questions that follow.

Determine showing all calculations which supermarket will be the best value for money. (4)

[21]

QUESTION 2

2.1

> Ms Sarah Moekwa has organized Interclasses sporting activities at Mankhole High School. Different sporting codes were indicates in the table below.
>
> Table 2 below shows the number of Grade 10 learners participating in sporting activities in 2021.
>
> | Gender | Table Tennis | Athletics | Chess | Other activities | Total |
> |---|---|---|---|---|---|
> | Boys | 6 | A | 8 | 29 | B |
> | Girls | 5 | 15 | C | 25 | 57 |
> | Total | 11 | 25 | 20 | 54 | D |
>
> Note: A learner is allowed to participate only in one activity.

Use Table 2 to answer the questions that follow.
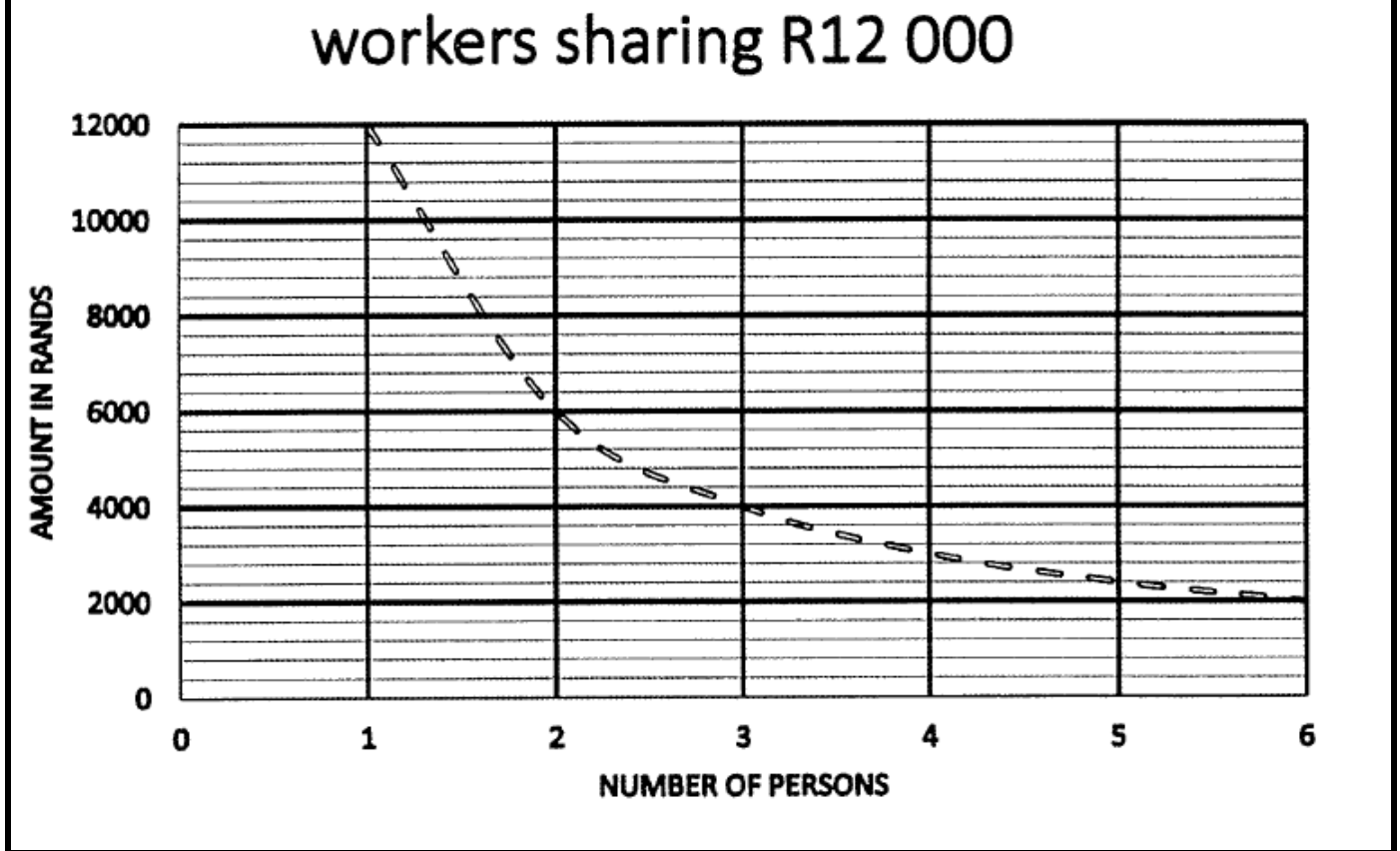
2.1	Determine the values of A – D in the table.	(4)
2.2	Give the ratio in simplified form for the number of athlete boys to the total number of learners playing chess.	(2)
2.3	The total number of enrolled learners at Mankhole High School is 810. Express the total number of Grade 10 learners participating in activities to the total number of enrolled learners in the school as a percentage. Round off your answer to 3(three) decimal places.	(3)
2.4	Write down two educational sporting codes that falls in the "Other activities".	(4)

[13]

QUESTION 3

3.1

The graph below represent the relationship between the amounts each worker receives after sharing a pay out of R12 000 for doing a particular job.

workers sharing R12 000

Use the information above to answer the questions that follow.

3.1.1   Write down the type of proportion represented on the above graph.   (2)

3.1.2   Write down the formula used to draw the graph.   (2)

3.1.3   Give a reason why the line of the graph is represented as a dotted line.   (2)

3.1.4   Determine the amount each person will receive if only three people are working on the job.   (2)

3.1.5   Explain why the line is a curve in relation to the two variables.   (2)

3.2

> Zebulon works as a builder for 6,5 hours per day excluding 30 minutes tea break and 1 hour lunch. He starts working at 07:30 a.m.

Use the information above to answer the questions that follow.

3.2.1   Determine the time of the day he leaves work for home.   (3)

3.2.2   Zebulon calculated that 245, 37 bags of cement are required for the job. His manager states that they need to purchase 246 bags. Explain why the manager's statement is correct.   (3)

[16]

TOTAL MARKS: 50

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MEMORANDUM

SYMBOL/SIMBOOL	EXPLANATION/VERDUIDELIKING
M	Method/METODE
MA	Method with Accuracy/metode met akkuraatheid
CA	Consistent accuracy/konstante akkuraatheid
RCA	Rounding consistent Accuracy/afrond konstante akkuraatheid
A	Accuracy/akkuraatheid
O	Opinion/Explanation/ verduideliking
C	Conversion/omskakeling
S	Simplification/vereenvoudiging
RT/RG/RD/RM	Reading from table/Reading from graph/Reading from diagram/Reading from map/lees van grafiek ,diagram,kaart
F	Choosing the correct formula/korrekte formule
SF	Correct substitution in a formula/korrekte substitusie in formule
J	Justification/regverdiging
P	Penalty e.g. for no units, incorrect rounding off etc./pennaliseer vir eenhede,afrond ens.
Re	Reason/rede
Ro	Rounding /afrond
NPU/NPR	No Penalty for units/ No Penalty for rounding.
AO	Answer only ,full marks/antwoord alleen vol punte.

Mathematical Literacy/P1
NSC
Capricorn South/June 2021

QUESTION 1 [21 marks]		Answer Only Full Marks
Ques	**Solution**	**Explanation**
1.1.		
1.1.1	R2700 : R4200 ✓**MA** 27 : 42 9 ✓**A** : 14 ✓**A**	1 MA ratio concept 1A for 9 1A for 14 (3)
1.1.2	Ratio is 9 : 14 Danny's Profit $= \dfrac{9}{23}$ ✓**A** $\times$ R3 400 ✓**MA** $= $ R1 330,43 ✓**CA** Refilwe's Profit $= \dfrac{14}{23} \times$ R3 400 $= $ R2 069,57 ✓**CA**	**CA from 1.1.1** 1A Multiplying $\dfrac{9}{23}$ 1MA Multiplying by R3 400 1 CA Answer 1 CA for Refilwe's Answer (4)
1.2.		
1.2.1	Total amount donated $= \dfrac{2}{3}$ ✓**A** $\times$ R3 400 ✓**M** $= $ R2 266, 67 ✓**CA**	1A for the ratio $\dfrac{2}{3}$ 1 M Multiplying by R3 400 1 CA answer (3)

1.2.2	1 : 12 ✓**MA**
	 50 cm : A
	
	 A $= 50$ cm $\times 12$ ✓**M**
	   $= 600$ cm ✓**CA**
		1MA correct ratio
		
		 1M cross multiplication
		 1 CA Answer
		    (3)

1.2.3	$(Slanting\ side)^2 = (50\ cm)^2 + (600\ cm)^2$ ✓**SF**
	 Slanting side $= \sqrt{(50\ cm)^2 + (600cm)^2}$ ✓**M**
	         $= \sqrt{2500\ cm^2 + 360\ 000\ cm^2}$
	         $= \sqrt{362\ 500\ cm^2}$ ✓**S**
	         $= 602,0797\ cm^2$ ✓**CA**
		1 SF correct substitution
		 1 M square root
		
		 1S Simplification
		
		 1CA answer
		    (4)

1.3	Supermarket A $= \dfrac{R20}{4,5\ kg}$ ✓**MA** $= $ R4,44 /kg ✓**CA** Supermarket B $= \dfrac{R8}{1,8\ kg}$ $= $ R4,44/kg ✓**CA** The prices are the same. ✓**O**	1 MA Cost per kg 1CA answer 1CA answer 1O Opinion/conclusion (4)

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QUESTION 2 [11 marks]		
2.0		

2.1	A = 25 – 15
	   = 10 ✓**A**
	
	B = 6 + 10 + 8 + 29
	   = 53 ✓**A**
	
	C = 57 – 25 – 15 – 5
	   = 12 ✓**A**
	
	   OR
	
	C = 20 – 8
	   = 12 ✓**A**
	
	D = 57 + 53
	   = 110 ✓**A**
	
	   OR
	
	D = 11 + 25 + 20 + 54
	   = 110 ✓**A**
		1A correct value of A
		
		1A correct value of B
		
		1A correct value of C
		
		1A correct value of D
		
		(4)

2.2	10 : 20 ✓**A** 1 : 2 ✓**A**	1A correct ratio 1A simplest form (2)
2.3	Total number of Grade 10 learners $= \dfrac{110}{810}$ ✓**MA** $\times 100\%$ ✓**MA** $= 13{,}580\ \%$ ✓**CA**	1MA dividing 110 by 810 1MA Multiplying by 100% 1CA Correct Answer (3)
2.4	Debate ✓✓**A** **OR** Maths Olympiad ✓✓**A** **OR** Scrabble ✓✓**A**	2A Debate 2A Maths Olympiad 2A Scrabble OR Any valid educational game (4)
		[13]

QUESTION 3	[16 marks]	
Ques	**Solution**	**Explanation**
3.1		
3.1.1	Indirect proportion ✓✓**O** OR Inverse proportion. ✓✓**O**	2O Explanation (2)
3.1.2	Amount received = $\dfrac{R12\,000}{n}$, where n is the number of people ✓✓**A**	2A formula (2)
3.1.3	Because number of people is discrete ✓✓**O** OR Number of people cannot be written as a decimal. ✓✓**O**	2O Opinion (2)
3.1.4	Amount for three(3) people = $\dfrac{R12\,000}{3}$ ✓**MA** = R4 000 ✓CA	1MA dividing by 3 1CA answer (2)
3.1.5	Because the amount of money to be shared cannot be equal to zero (0). ✓✓**O**	2O opinion (2)
3.2		
3.2.1	Time of the day = 07: 30 ✓**A** + 6h30 + 30min + 1 Hour ✓**MA** = 15:30 ✓**CA**	1A correct initial time 1MA adding all the hours and minutes 1CA answer (3)
3.2.2	The number of bags to be rounded up. ✓**O** There is no fraction of a bag of cement in the shop. ✓✓**O**	1O rounding up 2O number system (3)
		[16]