education

Department:
Education
North West Provincial Government
REPUBLIC OF SOUTH AFRICA

PROVINCIAL ASSESSMENT

GRADE 10

MATHEMATICAL LITERACY P2
PRE-EXAM
OCTOBER 2024
Stanmorephysics.com

MARKS: 75

TIME: 2.5 hours

This question paper consists of 11 pages and an annexure page.

Please turn over

INSTRUCTIONS AND INFORMATION

Read the following instructions carefully before answering the questions.

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

2.   Use ANNEXURE A for QUESTION 2.1.

3.   Start EACH question on a NEW page.

4.   Number the answers correctly according to the numbering system used in this question paper.

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

6.   Show ALL calculations clearly.

7.   Round off ALL final answers appropriately according to the given context, unless stated otherwise.

8.   Indicate units of measurement, where applicable.

9.   Diagrams are NOT necessarily drawn to scale, unless stated otherwise.

10.   Write neatly and legibly.

QUESTION 1

1.1   Convert the following:

     1.1.1   1 012 kilograms to grams   (2)

     1.1.2   360 minutes to hours   (2)

1.2   Mr Morolong took his car to the car wash. Below is the receipt he received after making a payment.

Koffies car wash	
No 8 kruger road	
Koffiefontein	
9986	
053 205 0010	
Cashier 1	
13/10/23,02:14 PM	
	Sale #
30181967104	
1 Gold Wash	R65,00
1 Car polish	R10,00
1 Braai Plate	R50,00
Total	R125,00
VAT @15%	R18,75
Total Paid	R143,75

Use the information above to answer the question that follow

     1.2.1   Write down the date that Mr Morolong took his car to the car wash.   (2)

     1.2.2   Convert the total amount paid to cents.   (2)

     1.2.3   Express the time shown on the receipt in a 24-hour format.   (2)

     1.2.4   Write down the probability of selecting the item that costs more than R50.   (2)

1.3   The year 2024 will be a leap year. Below is a calendar of February 2028.

February 2028

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29				

NOTE:
A leap year 2028 is a year in which February has 29 days.

Use the calendar above to answer the questions that follow.

1.3.1 Write down, in full, the date of the second Tuesday of the month. (2)

1.3.2 Write down the year which was a leap year before 2024. (2)

[16]

QUESTION 2

2.1   The school bought 23 Mesh back chairs for the teachers. The packages came with parts together with assembly instructions.

ANNEXURE A shows the parts and assembly instructions for the chairs.
Some of the instructions have been omitted.
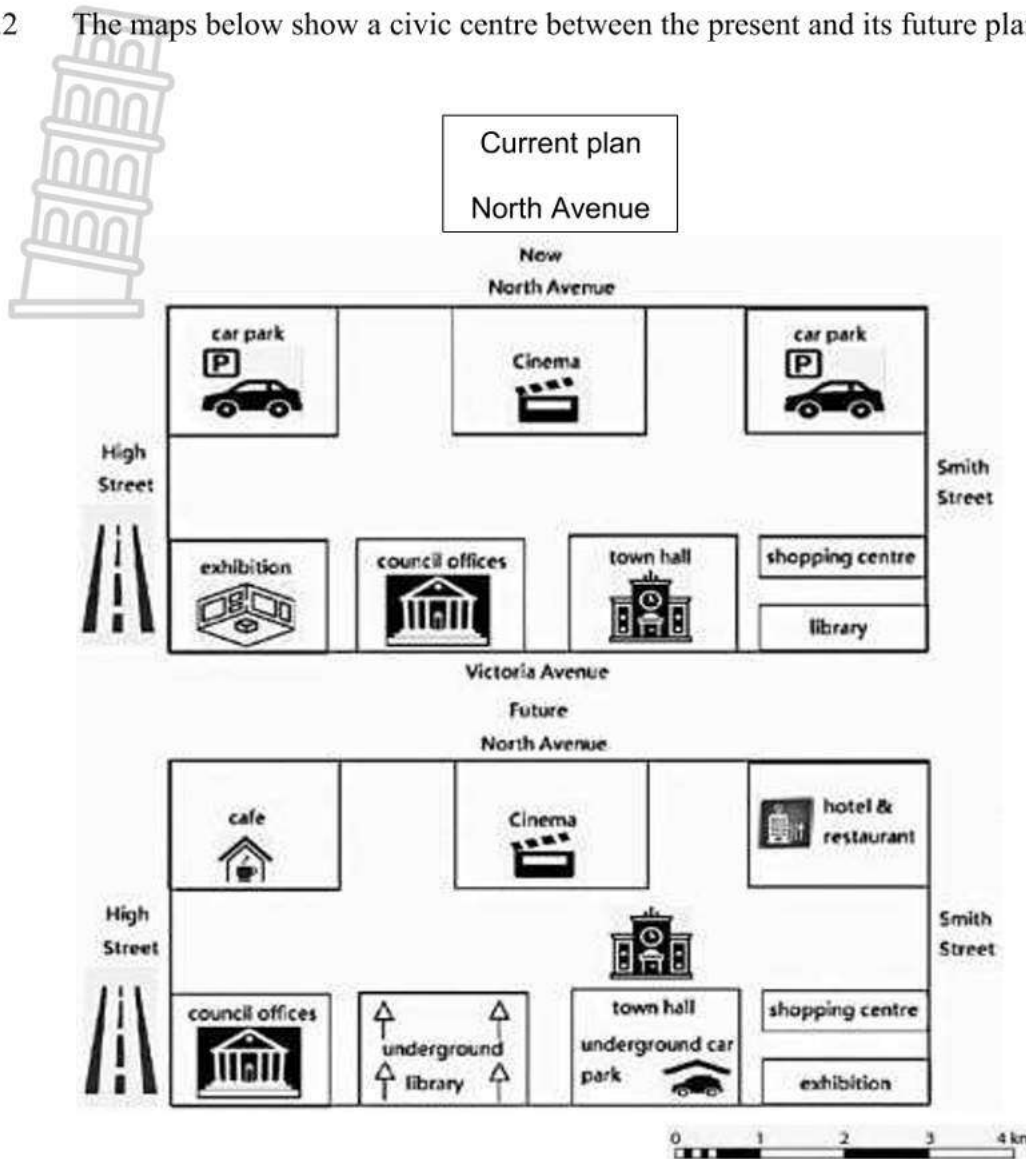
Use ANNEXURE A to answer the questions that follow.

2.1.1   Determine the total number of screws needed to assemble one chair   (2)

2.1.2   Write down the total number of levelling glide needed for 23 chairs   (3)

2.1.3   Identify, from the list of parts, the part that will be used as the legs of the chair.   (2)

2.1.4   Give one possible reason why is it important for the weight capacity of the chair to be indicated.   (2)

2.1.5   Match the following instructions with the correct picture (A, B, or C) below.
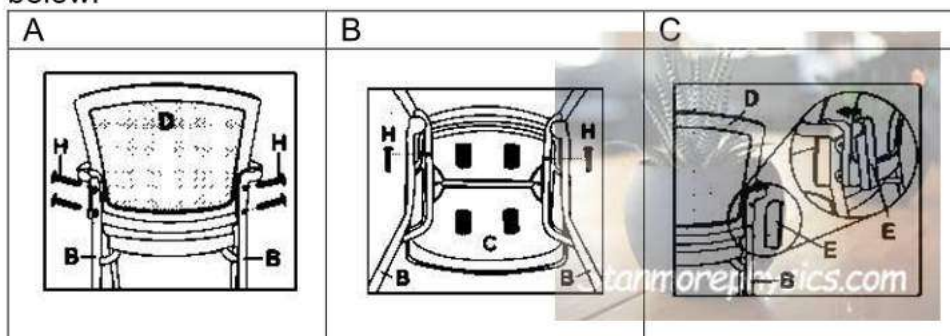
     (4)

1. Attach the screws covers.

2. Attach the chair back to the chair frame using four M6x35 mm screws.

2.2   The maps below show a civic centre between the present and its future plan.

Current plan

North Avenue

Use the information above to answer the questions that follow.

2.2.1   Write down the name of one building that is included in the future
plan and it is not there in the current plan.   (2)

2.2.2   Which buildings will be directly next to the town hall in the future plan?
                                                                                        (2)

2.2.3   Determine the probability (as a percentage) of selecting a building
which will be in a different position in the future plan.   (2)

2.2.4   Write down the name and ONE advantage of the scale used on the
map.   (3)

                                                                                      [22]

QUESTION 3

3.1   The images below represent measuring instruments used to measure mass and volume. Study the images below and answer the questions that follow.

A	B
C	D

Match the descriptions below with the images above. Write down only the correct letter (A – D).

3.1.1   An instrument used to measure the mass of meat in a butchery   (2)

3.1.2   An instrument used to measure the mass of different food types in the kitchen

(2)

3.1.3   An instrument used to measure liquids.   (2)

3.1.4   An instrument used to measure the mass/weight of a person   (2)

3.2   Below is the recipe that Nomsa uses to make buttermilk rusks for her tea birthday party.

Ingredients (Makes 25 rusks)	Buttermilk rusks
1,5 kg self-raising flour 3 ml salt 10 ml cream of tartar 500g butter 350g sugar 500 ml buttermilk	

NOTE:
Preparation time = 45 minutes
Bake for 35 minutes at 180°C
1 tsp = 5 ml
1 cup = 250 ml

3.2.1   Write down the number of buttermilk cups needed for the recipe.   (2)

3.2.2   Nomsa bought 1 kg of sugar to bake the rusks. Calculate how much sugar, in grams, will be left.

                                                                                (3)

3.2.3   Write down the ratio of the amount of salt and the amount of cream of tartar in a unit form.

                                                                                (3)

3.2.4   Nomsa stated that if she starts the whole process of making the rusks at 07:15 she will be able to finish on time for her tea part that will start at 09:00.

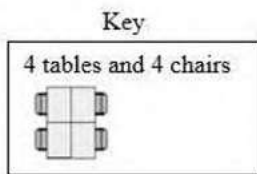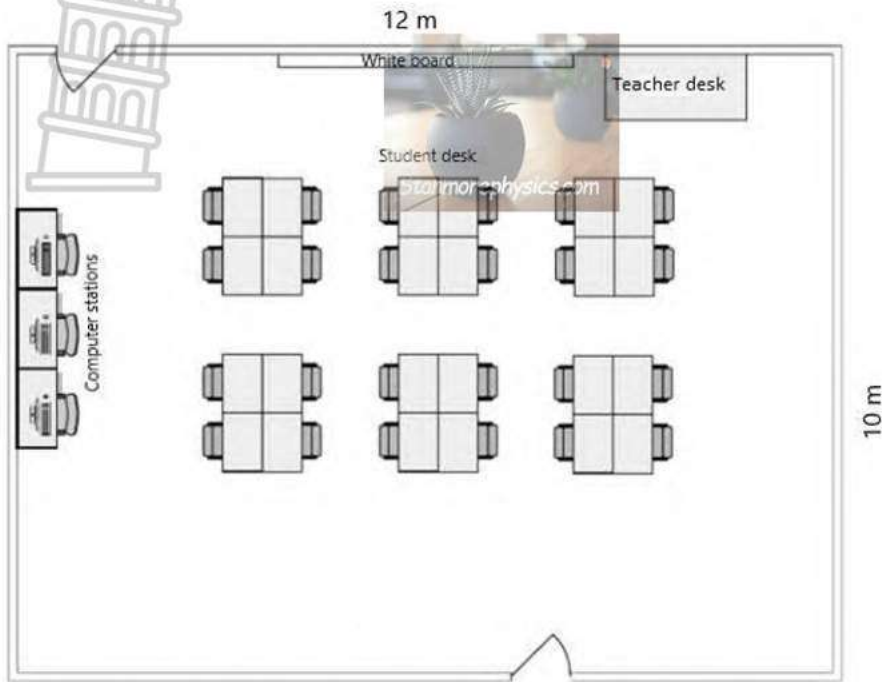   Verify, by means of calculation, whether her statement is correct.

                                                                                (4)

                                                                              [20]

QUESTION 4

The floor plan shown below is that of Mrs Moloi's classroom

Key

4 tables and 4 chairs

Use the information above to answer the questions that follow.

4.1	Define the term floor plan in the given context.	(2)
4.2	State the type of the scale used in the diagram above.	(2)
4.3	Determine the maximum number of learners that can be seated in the class	(2)
4.4	If the teacher moves from her table to the computer station. Will she turn right or left?	(2)
4.5	Calculate the perimeter of the classroom.	(3)

4.6   State what is wrong with the design of a structure shown on a plan.

4.7   The teacher requested the principal to replace the skirting in her class. The skirting will be placed around the classroom except where there are doors.

PICTURE OF SKIRTING BOARD

Skirting

NB: Skirting is a wooden board running along the base of an interior wall.

(a) Calculate the total length of the skirting that must be bought if the width of each door is 0,8 m.   (2)
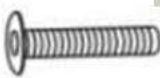
(b) Calculate how much will the school spend to buy the new skirting if the cost the skirting board is R49,00 per metre.   (2)

[17]

TOTAL: 75

ANNEXURE A

QUESTION 2.1

PARTS LIST		
Seat Brace 1 unit	Chair Frame 2 units	Chair Seat 1 unit
Chair Back 1 unit	Screw Cover 2 units	M6x16mm Screw 2 units
M6 x 30mm Screw 4 units	M6 x 35mm Screw 6 units	Levelling Glide 4 units	Allen Wrench 1 unit

Weight Capacity: 102 kg

Caution:
1. Do not use this chair as a step ladder.
2. Check for loose screws and tighten them every six months.

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NATIONAL SENIOR CERTIFICATE

GRADE 10

MATHEMATICAL LITERACY P1

PRE-EXAM

MARKING GUIDELINE

2024

MARKS: 75

CODES	EXPLANATION
M	Method
MA	Method with Accuracy
CA	Consistent Accuracy
MCA	Method with Consistent Accuracy
A	Accuracy
C	Conversion
D	Define
J	Justification / Reason / Explain
S	Simplification
RT / RD / RG	Reading from a table OR a graph OR a diagram OR a map OR a plan
F	Choosing the correct formula
SF	Substitution in a formula
O	Opinion
P	Penalty, e.g. for no units, incorrect rounding-off, etc.
R	Rounding off
NPR	No penalty for rounding-off OR omitting units

This marking guideline consists of 6 pages and a grid.

NOTE:

- If a candidate answers a question TWICE, only mark the FIRST attempt.
- If a candidate crossed out (cancelled) an attempt to a question and NOT redone the solution, mark the crossed out (cancelled) version.
- Consistent accuracy (CA) applies in ALL aspects of the marking guidelines; however it stops at the second calculation error.
- If a candidate presents any extra solution when reading from a graph, table, layout plan and map, then penalise for every extra incorrect item presented.

QUESTION 1 [14 MARKS]			
Ques.	**SOLUTION**	**EXPLANATION**	**TL**
1.1	Bar Graph ✓✓A	2A correct type of graph (2)	DH L1
1.2	Total budget per month = R6 000 + R2 600 + R2 400 + R1 400 + R3 000 + R4 000 + R2 600 + R3 000 ✓RG = R25 000 ✓A	1RG reading all correct values 1A total budget (2)	F L1
1.3	R6 000; R4 000; R3 000; R3 000; R2 600; R2 600; R2 400; R1 400 ✓RT✓A	1RT correct values 1A correct order. (2)	DH L1
1.4	Petrol ✓✓A	2A correct item (2)	DH L1
1.5	Income received after deductions ✓✓A OR Take home pay OR Gross income – Deductions	2A definition (2)	F L1
1.6	Total nett income = R13 335 + R16 363 ✓MA = R29 698 ✓A	1MA for adding correct values 1A total nett income (2)	F L1
1.7	4 000 : 6 000 ✓MA 2 : 3 ✓A	1MA correct ratio and order 1A for simplification (2)	F L1
		[14]	

QUESTION 2 [26 MARKS]

Ques.	SOLUTION	EXPLANATION	TL
2.1.1	$3 \times 14,95$ ✓MA $= R44,85$ ✓A	1MA multiplying correct values 1A answer (2)	F L1
2.1.2	Value Added Tax ✓✓A	2A Value Added Tax (2)	F L1
2.1.3	$R25,17 \div 1,15 = R21,89$ ✓M $\therefore$ VAT $= R25,17 - R21,89$ $= R3,28$ ✓A **OR** $R25,17 \times (15 \div 115)$ ✓M $= R3,28$ ✓A	1M price excluding VAT 1A answer (2)	F L2
2.1.4	Total including VAT $= R167,67$ ✓RT Total excluding VAT $= R167,67 \div 1,15$ ✓M $= R145,80$ ✓A	1RT correct value 1M dividing by 1,15 1A answer (3)	F L2
2.1.5	$R167,60$ ✓R Change $= R200 - R167,60$ ✓MCA $= R32,40$ ✓CA	1R rounding R167,60 1MCA subtracting 1CA answer (3)	F L3

2.2.1	$A = R10\ 887,11 - R125,60 - R1,00$ ✓M
	     $= R10\ 760,51$ ✓CA
	 OR
	 $A = R8\ 158,01 + R\ 2,50 + R2\ 600,00$✓M
	     $= R10\ 760,51$✓CA
		1M subtracting correct values
		 1CA for answer
		 OR
		 1M adding correct values
		 1CA for answer (2)
			F L2

2.2.2	Deposit $= R2,00 + R1,00 \times$ (number of R100's) ✓F
	
	 Fees for 3/1/2019 $= R2 + R1 \times (R1\ 000 \div R100)$ ✓M
	          $= R2 + R10$
	          $= R12$ ✓A
	 The statement is valid ✓O
		1F number of R100
		
		 1M substituting in correct formula
		 1A answer
		 1CA opinion (4)
			F L4

2.2.3	Balance 28/1/19 $= R19\ 718,01 + (R15 - R12)$ ✓RT✓M $= R19\ 721,01$ ✓CA	**CA from 2.2.2** 1RT identifying R15 1M method 1CA answer (3)	F L3
2.2.4	Bank fees $= R12 + R2,50 + R2,50 + R1,00 + R2,50$ ✓MCA $= R20,50$ ✓CA His statement is not correct ✓O	**CA from 2.2.2** 1MCA adding values 1CA correct value 1O opinion (3)	F L4
2.2.5	So that they can be able to do their daily operations. ✓✓O **OR** To be able to pay their employees. ✓✓O **OR** That is their way of getting income. ✓✓O **OR** **Accept other relevant reasoning.**	2O opinion (2)	F L4
			[26]

QUESTION 3 [20 MARKS]

Ques.	SOLUTION	EXPLANATION	TL
3.1.1	Range = 110 – 5 ✓RT✓MA = R105	1RT correct values 1MA concept (2)	DH L2
3.1.2	Average = $\frac{433}{16}$ ✓MA✓MCA = 27,0625 ✓CA ≈ R27,06	1MA adding correctly 1MCA divide by 16 1CA answer (3) **NPR**	DH L2
3.1.3	Mode is the number that appears the most on the data. ✓E Mode = R29 ✓A, Therefore her statement is invalid. ✓O	1E explanation 1A correct mode 1O opinion (3)	DH L4
3.1.4	Probability (R29) = $\frac{5}{16}$ ✓A✓A = 0,3125 ✓CA ≈ 0,313 ✓R	1A correct numerator 1A correct denominator 1CA answer 1R rounding (4)	P L2
3.2.1	Converse✓✓RG	2RG reading from the graph (2)	DH L1
3.2.2	Adidas = 32% × 300 ✓MA = 96 learners ✓A % for Nike = 100% – (18% + 13% + 32% + 17%) ✓MA = 20%✓A Nike = 20% × 300 = 60 learners ✓CA Difference = 96 – 60 = 36 ✓CA	1MA multiplying correct values 1A number of learners for Adidas 1MA subtraction 1A simplification 1CA number of learners for Nike 1CA difference (6)	DH L3
		[20]	

QUESTION 4 [15 MARKS]			
Ques.	**SOLUTION**	**EXPLANATION**	**TL**
4.1.1	Interest is the money paid regularly at a particular rate for the use or loan of money. ✓✓A	2A definition. (2)	F L1

4.1.2	Amount = (R3 200 ×8%) + R3 200 ✓M
	        = R256 + R3 200 ✓MA
	        = R3 456,00 ✓CA
		1M multiplying by 8%
		1MA adding principal amount
		1CA correct answer (3)
			F L3

4.1.3	The interest rate is 8% p.a.✓A while the interest earned on the investment is R256✓A (R3 456 – R3 200)	1A correct interest rate 1A correct interest (2)	F L1
4.2.1	A = ⦀⦀ ✓A B = 11 ✓A	1A correct tally drawing 1A correct answer (2)	D L1
4.2.2	$\frac{10}{30}$ × 100 ✓CA ✓A 33,33333…%/33,33% ✓A	1CA denominator 1A numerator 1CA simplification **NPR** (3)	DH L2
4.2.3	 ✓A netball ✓A volleyball ✓A cricket (3)		DH L2
		[15]	

ANALYSIS GRID

QUESTION	L1	L2	L3	L4
1.1	2			
1.2	2			
1.3	2			
1.4	2			
1.5	2			
1.6	2			
1.7	2			
				QUESTION 1 [14]
2.1.1	2			
2.1.2	2			
2.1.3		2		
2.1.4		3		
2.1.5			3	
2.2.1		2		
2.2.2				4
2.2.3			3	
2.2.4				3
2.2.5				2
				QUESTION 2 [26]
3.1.1		2		
3.1.2		3		
3.1.3				3
3.1.4		4		
3.2.1	2			
3.2.2			6	
				QUESTION 3 [20]
4.1.1	2			
4.1.2			3	
4.1.3	2			
4.2.1	2			
4.2.2		3		
4.2.3		3		
				QUESTION 4 [15]
TOTAL	26	22	15	12
ACTUAL %	35%	29%	20%	16%
EXPECTED %	30%	30%	20%	20%