KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 11

MATHEMATICAL LITERACY

PROVINCIAL STANDARDISED ASSESSMENT

MARCH 2026

Stanmorephysics.com

MARKS: 100

TIME: 2 hours

This question paper consists of 9 pages.

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INSTRUCTIONS AND INFORMATION

1. This question paper consists of FOUR questions. Answer ALL the questions.
2. Number the answers 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 the calculations clearly.
6. Round off, ALL the final answers appropriately according to the given context, unless stated otherwise.
7. Indicate units of measurement, where applicable.
8. Diagrams are NOT necessarily drawn to scale, unless stated otherwise.
9. Write neatly and legibly.

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QUESTION 1

1.1 300 learners from Siphumula High School plan to go on an excursion, 12% of learners will NOT participate in the planned excursion.

Use the information above and answer the questions that follow.

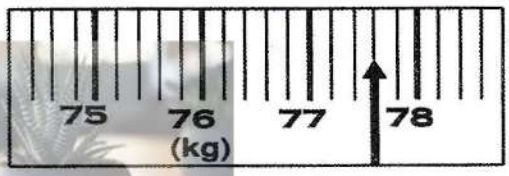
1.1.1 Determine the total number of learners who will NOT participate in the excursion. (2)

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1.1.2 Determine, as a simplified common fraction, the percentage of learners that will participate in the planned excursion. (3)

1.1.3 The bus transporting learners in an excursion took 165 minutes to reach its destination. Convert the duration of the bus journey into hours and minutes. (2)

1.1.4 Noxolo's weight, a learner at Siphumula High School, is shown in the illustration alongside.



[Source: https://study.com/academy]

Write down her weight as shown in the illustration above. (2)

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1.2 The learners will use the mixing ratio for Oros concentrated juice and water for preparation of diluted juice.



NOTE: The ratio of concentrated: water is 1: 9 to give the best taste results after mixing.

[Adapted from http://www.shorite.co.za]

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Use the information above to answer the questions that follow.

1.2.1 Explain the meaning of the ratio 1: 9 in the given context. (2)

1.2.2 If learners have 1 000 *ml* of concentrated juice, determine the amount of water in millilitres that must be added to get a tasteful diluted juice. (2)

1.2.3 The learners decided to dilute 750 *ml* of concentrated juice to 4 500 *ml* of water. Determine the ratio in which the juice is mixed and deduce whether the taste will be good, bad or the same compared to the recommended ratio. (3)

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1.3 The group of learners will visit uShaka Marine World, and each learner will pay R180 bus fare for return trip. stanmorephysics.com

TABLE 1 below shows the total amount paid per learner going on a trip.

TABLE 1: TOTAL AMOUNT PAID PER NUMBER OF LEARNERS

No. of learners	**0**	**20**	**40**	**60**	**80**	**100**
Total amount (R)	0	3 600	7 200	10 800	14 400	18 000

Use TABLE 1 and the information above to answer the questions that follow.

1.3.1 Name the relationship represented in TABLE 1 above. (2)

1.3.2 State whether the number of learners will represent the independent or dependent variable. (2)

1.3.3 Write down the formula to calculate the total amount paid by each learner. (2)

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QUESTION 2

2.1 John Doe works as a sales executive in a company that makes business cards. Below is his payslip for total earnings and deductions. stanmorephysics.com

PAYSLIP			
Eco Green Corp Inc.			
Date of Joining: 2025-01-15		**Employee Name**: John Doe	
Pay Period: January 2026		**Designation**: Sales Executive	
Worked Days: 25		**Department**: Sales	
Earnings	**Amount**	**Deductions**	**Amount**
Basic salary	R12 000	Provident Fund	R1 500
Incentive Pay	16,67% of basic salary	Professional Tax	R700
House Rent Allowance	R500	Loan	R600
Meal Allowance	**A**		
Total Earnings	**R14 800,40**	**Total Deductions**	**R2 800**
Net Pay	**B**		

[Adapted from https://www.cleverence.com]

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Use the information above to answer the following questions.

2.1.1 Define the term *basic salary* in the given context. (2)

2.1.2 Calculate the value of **A**, the meal allowance. (4)

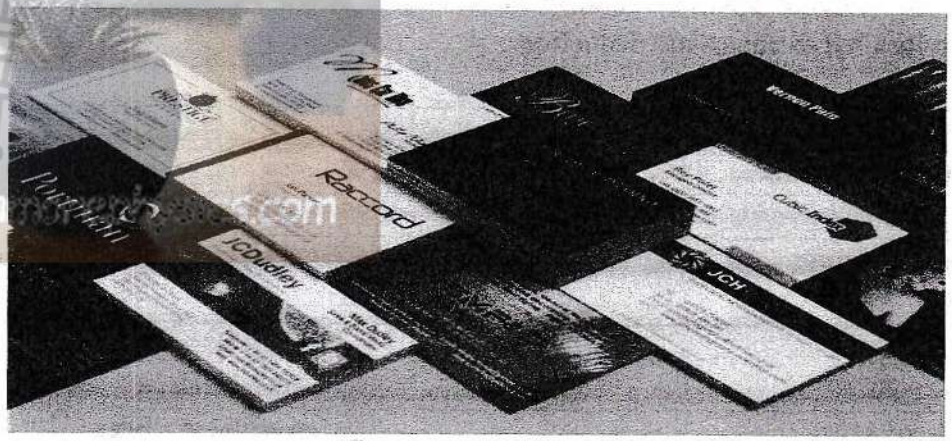
2.1.3 Show by calculations how the total deduction of R2 800 was calculated. (2)

2.1.4 Determine the value of **B**, the net salary of Mr John Doe. (2)

2.1.5 John claims that his savings are 12% of his net pay. Verify with calculations whether John's statement is correct if he saves R1 330.05 per month. (4)

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2.2 Maxicard offers business cards but charges a once-off fee of R120.00 per order. 500 cards ordered are charged a total of R320.00.



[Source: https://flmedia.group/shop/x-banner-2]

Use the information above to answer the questions that follow.

2.2.1 Determine how much is the fixed expense charged by Maxicard per order. (2)

2.2.2 Show by calculations that the variable expense for producing ONE business card is R0.40 using the order above. (3)

2.2.3 Mr Sahota a customer of Maxicard, claims that with a budget of R1 200, including the once-off fee, he can order 2 700 business cards.

Verify whether his claim is valid by showing all calculations. (4)

2.2.4 Name TWO material that Maxicard can use to produce the business cards. (4)

2.2.5 Maxicard also offers 50% discount on the once-off fee if a customer orders 2 000 or more cards in a single order.

Mr Dlamini another customer ordered 2 100 cards. Calculate the total amount he will pay. (5)

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QUESTION 3

3.1 Below is a recipe that Femi will use to make round cookies for her birthday tea party.

Ingredients: serves 48: **yields:** four dozen.
Preparation time: 20 minutes, **Cook time**:10 minutes, **Total time**: A, **Bake at 180°C**

300g of all-purpose flour
1 teaspoon baking soda
$\frac{1}{2}$ teaspoon baking powder
1 cup butter, softened
$1\frac{1}{2}$ cups white sugar
1 large egg
1 teaspoon vanilla extract
1 teaspoon = 5*ml* and 1 cup = 250 *ml*



[Source:https://www.allrecipes.com/recipe/9870/easy-sugar-cookies/]

Study the information above and answer the questions that follow.

3.1.1 Convert the mass of all-purpose flour to pounds, if **1 pound = 454 grams.** (2)

3.1.2 Calculate the amount of baking powder in millilitres required to serve 120 people. (3)

3.1.3 If Femi doubles the recipe to make 96 cookies, calculate the amount of sugar needed in cups and millilitres. (3)

3.1.4 The oven is preheated to 180 °C. Convert this temperature to degrees Fahrenheit. You may use the formula: **°F = °C × 1.8 + 32°** (2)

3.1.5 Femi intends to bake 10 dozen of round cookies to serve 150 guests, each guest will get three cookies.

a) The clock alongside displays the time at which Femi started preparing the first batch of cookies in the afternoon.



Write down the time shown on the clock in words. (2)

[Source: https://stock.adobe.com.za]

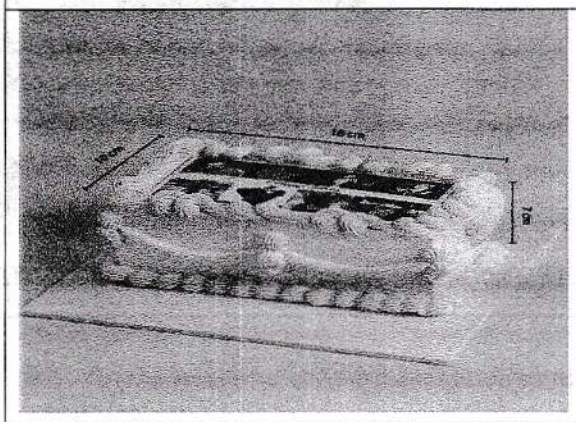
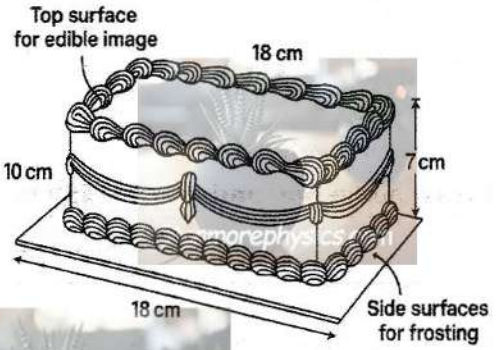
b) The birthday tea party will start at 17:30. Suggest ONE realistic adjustment she could make if time is not sufficient to finish baking. (2)

c) Name ONE kitchen utensil or equipment Femi will need to prepare and bake the round cookies. (2)

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3.2 The diagram below represents a rectangular one tier cake that Femi baked for her birthday party. The cake has the following dimensions:

- Length (l) = 18 cm
- Width (w) = 10 cm
- Height (h) = 7 cm

PICTURE OF THE CAKE	DIAGRAM OF THE RECTANGULAR CAKE
	

- **NOTE** – Frosting is a sweet, spreadable, and often fluffy topping or filling for cakes.
- The cake frosting length is three time perimeter of the cake.

[Adapted from https://basketeer.com/charlotte-bakery]

Use the information above and the diagrams to answer the questions that follow.

3.2.1 Calculate the volume of the cake in cm^3.
You may use the formula. **Volume of rectangular prism = $l \times w \times h$** (3)

3.2.2 Determine the surface area of the cake, excluding the bottom part of the cake.
You may use the formula:
Total surface area = $l \times w + 2 \times (w \times h) + 2 \times (l \times h)$ (3)

3.2.3 The frosting of the cake costs R0.25 per cm. Determine to the nearest rand, the total cost of frosting, if 5 cakes were baked.

You may use the formula:
Perimeter = $2 \times (l + w)$ (5)

3.2.4 The length of the tray that holds the cake is 25% more than the length of the cake. Calculate in mm the length of the tray. (3)

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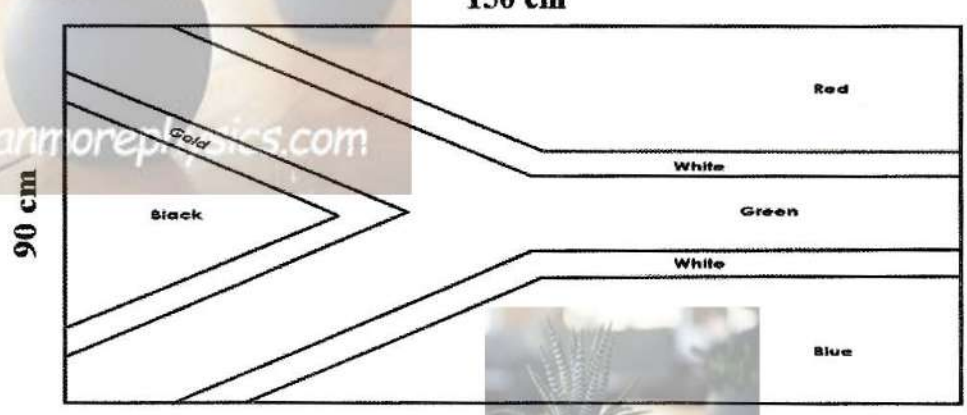
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QUESTION 4

4. The diagram below represents the South African national flag. The flag is made up of six colours: green, black, white, gold, red, and blue. For a national holiday event, the flag is produced with the following dimensions:

- Width (w) = 90 cm
- Length (l) = 150 cm

SOUTH AFRICAN NATIONAL FLAG



- **NOTE** -The ratio of width to length of the flag is 2: 3

[Source: https://www.twinkl.co.za/resource/heritage-day]

Use the information and the diagram above to answer the questions that follow.

4.1 Identify the geometric shape formed by the black colour of the flag. (2)

4.2 Calculate the area of the entire flag in cm^2.
You may use the formula: **Area of rectangle = $l \times w$** (2)

4.3 The flag is enlarged so that the length becomes 300 cm. Determine the new width of the flag if the ratio of 2: 3 is maintained. (2)

4.4 The Y-green shape makes up approximately 20% of the total area of the flag.
Calculate the area of the 150 cm by 90 cm flag that is NOT green. (3)

4.5 For the national holiday, organisers plan to display 12 flags of size 90 cm × 150 cm and 8 flags of 300cm × 200cm.
Verify whether the organisers' budget of R30 000 is enough if the cost is R0.05 per cm^2. (7)

[16]

TOTAL MARKS:100

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