Grade 10
Time: 1 ½ Hours
Examiner: Mr P Furstenburg

Bergvliet High School
Mathematical Literacy
Final Exam
Paper 2

November 2024
Marks: 75
Moderator: Mr K Gwavava

Name: _____ Teacher: FR / GW / SI

Instructions:

- Answer all the questions
- Simplify all answers
- Round off ALL FINAL ANSWERS appropriately according to the given context, unless stated otherwise
- Read each question carefully and answer all questions on the question paper
- Use black or blue ink only and no correctional fluid is permitted
- Please write neatly and legibly
- This question paper consists of 7 pages including the cover page and ANNEXURES

Question	Assessment Marks	Learners Mark
1	15	
2	20	
3	17	
4	11	
5	12	
Total	75	/ 75

QUESTION 1

1.1 **Below are high and low temperatures, in degrees Fahrenheit from some major cities around the World. Refer to the table and answer the questions that follow:**

City	High	Low
Athens	68	50
Beijing	70	49
Berlin	65	44
Cairo	96	64
Dublin	57	46
Geneva	70	45
Hong Kong	80	73

1.1.1 Which city recorded the highest temperature? (2)

1.1.2 By how many degrees is Hong Kong warmer than Beijing according to the low temperatures? (2)

1.1.3 Calculate the low temperature for Berlin in degrees Celsius. Round off to the nearest whole number.

You may use the following formula: $^{o}C = (^{o}F - 32^{o}) \div 1,8$ (3)

1.2

The Springboks played England at Twickenham recently with a sold out stadium of 79 587 spectators watching South Africa win the Test Match 29-20. The largest crowd ever recorded for a rugby match was in 2000 between New Zealand and Australia when 109 874 people watched New Zealand win the encounter 39-35.

1.2.1 Using the basic rules of rounding, round the Twickenham spectators to the nearest 1 000? (2)

1.2.2 Write the 109 874 correct to **TWO** significant figures. (2)

1.3 The Grade 10 learners of Bergvliet High School are ready for their final examinations. Refer to **ANNEXURE A** which shows a seating plan arranged in alphabetical order so that the signing of the register and collection of question papers are simplified.

Use the seating plan in **ANNEXURE A** to answer the questions that follow:

1.3.1 Explain the meaning of the given scale. (2)

1.3.2 Convert the length of the invigilators desk to centimetres. (2)

[15]

QUESTION 2

2.1 **Betty's aunt in New York gave her the following recipe to make pancakes. All the ingredients were given as imperial measurements and Betty's kitchen scale and measuring jug are all in metric measurements.**

Pancakes

4 oz flour
1 large egg
½ pint milk
¾ teaspoon

Useful Conversions

1 oz (ounce) = 28,3495 grams
1 pint = 600 ml

2.1.1 Help Betty by converting the measurements of flour and milk to metric measurements using the conversions provided. (4)

2.1.2 If the above recipe only makes 6 pancakes, how many oz (ounces) of flour would **Betty** need to make 10 pancakes? (3)

2.2 **Betty wants to re-tile her kitchen in the holidays. The dimensions of her kitchen are:**

Length = 6m
Breadth = 3,5m

A small part of area of the floor is taken up by built-in cupboards. The percentage of this area amounts to 12,5%.

2.2.1 Calculate the area of Betty kitchen.
You may use the following formula: **Area = Length x Breadth** (2)

2.2.2 Determine how much area the built-in cupboards take up of the kitchen floor area. Round your answer to 2 decimal places. (3)

2.3 **Betty decides she will be using square tiles with sides of 15cm.**

2.3.1 Calculate the area of ONE tile in m^2. (4)

2.3.2 Calculate how many tiles Betty will need to cover her kitchen floor taking the built-in cupboards into account. (4)

[20]

QUESTION 3

3.1 The map of South Africa in ANNEXURE B shows the nine province.
Use the map to answer the questions that follow:

3.1.1 What is the general direction of Bhisho from Kimbeley? (2)

3.1.2 How many major towns and towns are listed in the Northern Cape province? (2)

3.2 Use the scale of the map to estimate the distance as the crow flies from Cape Town to Bloemfontein. (4)

3.3 A friend of yours who once drove from Cape Town to Bloemfontein disagrees with your answer in 3.2. He says that he drove a much greater distance. Explain why his statement does not agree with your answer in 3.2. (2)

3.4 The table below shows the land area and population of each province.
Use the table to answer the questions that follow:

Province	Land area (km^2)	Population
Eastern Cape	169 580	6 906 200
Free State	129 480	2 965 600
Gauteng	17 010	9 688 100
Kwazulu-Natal	92 100	10 014 500
Limpopo	123 910	5 402 900
Mpumalanga	79 490	3 536 300
Northern Cape	372 889	1 102 200
North West	116 320	3 394 200
Western Cape	129 370	4 839 800

3.4.1 Which province has the biggest population? (2)

3.4.2 Determine the **UNIT RATIO** of the area of the smallest province to the biggest province. (3)

3.4.3 Write the population of the Western Cape in words. (2)

[17]

QUESTION 4

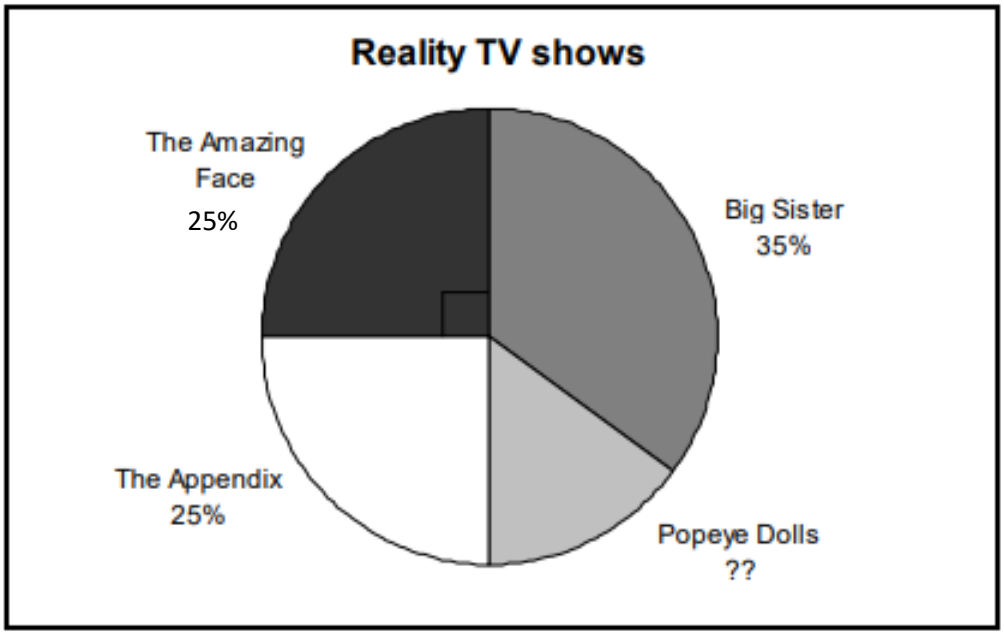
4.1 Refer to the floor plan on ANNEXURE C and answer the questions that follow:

4.1.1 How many doors appear on the floor plan? (2)

4.1.2 How many windows are there on the North elevation? (2)

4.1.3 If the length of the study is 4m, prove that the floor area is 13,2m^2. (2)

4.2 A group of 420 people were asked about which reality TV show they prefer. Study the pie chart shown below and answer the questions that follow:



4.2.1 If the pie chart was drawn with a diameter of 6,2cm, determine the area of the pie chart.

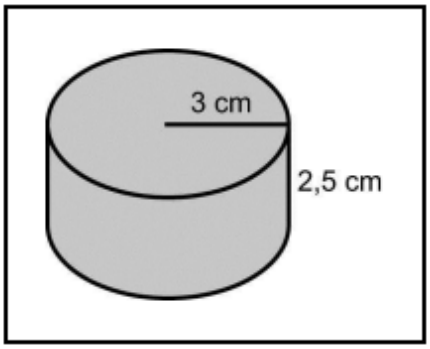
You may use the following formula: **Area = πr^2 ,** where **π = 3,142.** (3)

4.3 In a playing deck of 52 cards, what is the probability of randomly selecting an ace of any suit? Write your answer as a common fraction. (2)

[11]

QUESTION 5

5.1 **A factory produces toffees. The dimensions of the large toffees are shown below:**



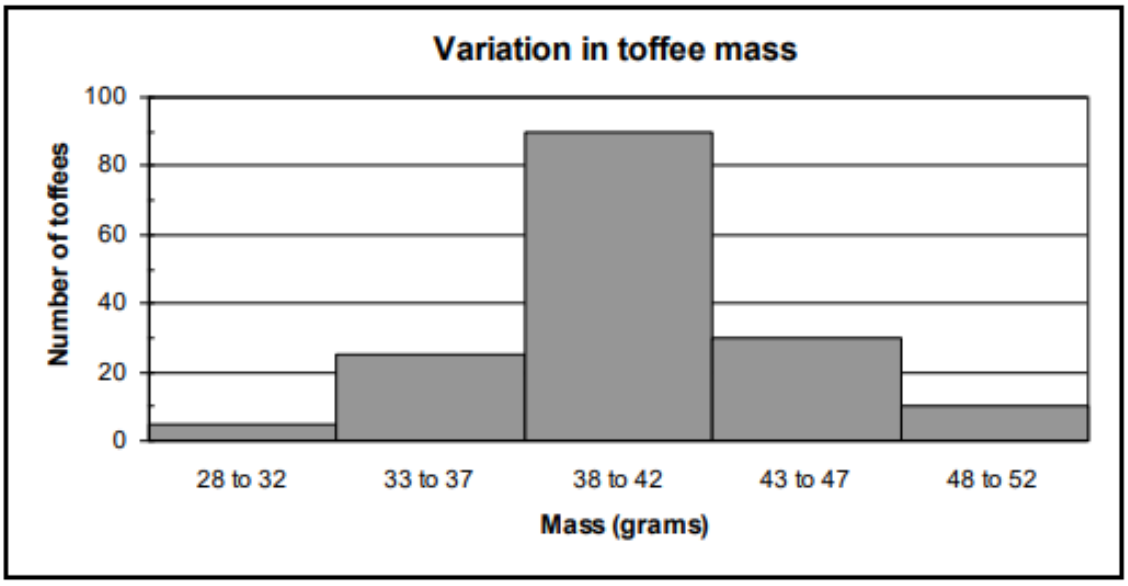
5.1.1 Calculate the volume of ONE toffee.

You may use the following formula: **Volume = $\pi r^2 h$** where **π = 3,142.** (2)

5.1.2 Find the surface area of the toffee.

You may use the following formula: **TSA = $2\pi r^2 + 2\pi rh$** where **π = 3,142.** (3)

5.2 To monitor the toffee production, a supervisor determined the mass of the batch of 160 toffees. The results are shown in the graph below.



5.2.1 Name the type of graph shown above. (2)

5.2.2 The target mass for each toffee is 40 grams.

(a) How many toffees have a mass of 32 grams or less? (2)

(b) Calculate the percentage of toffees with a mass of 38 to 42 grams of the total number of toffees? (3)

[12]

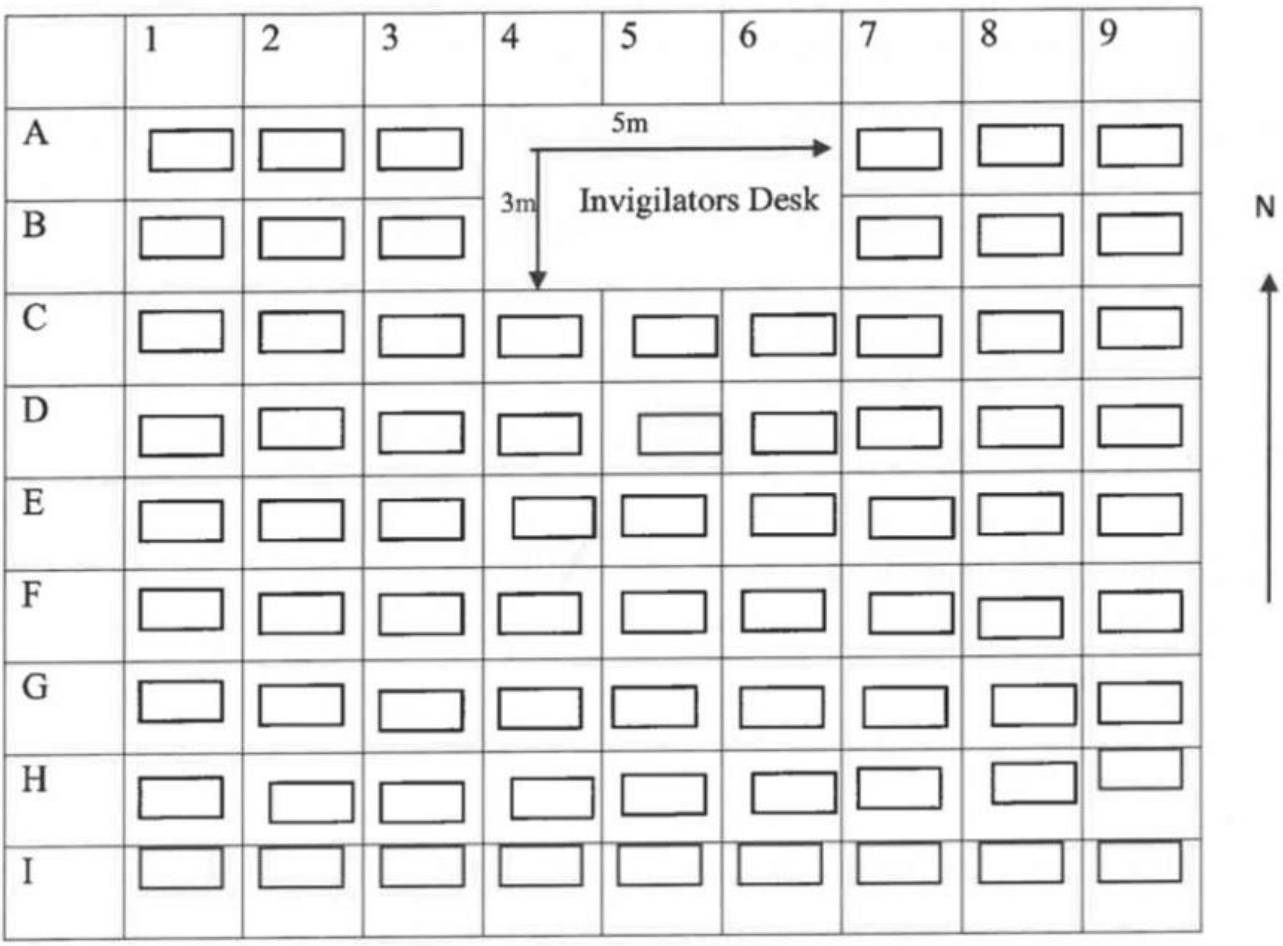
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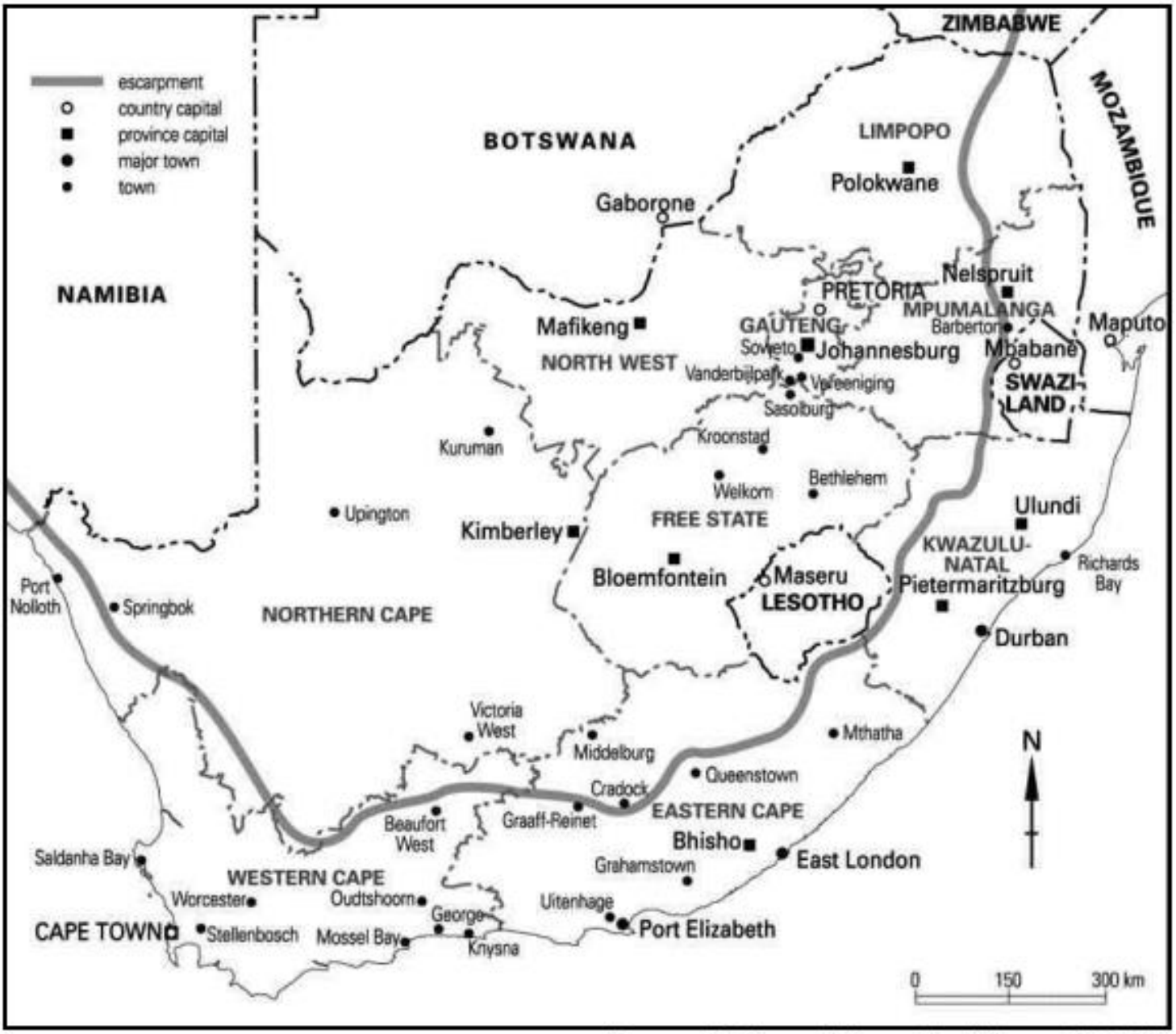
QUESTION 1.3
ANNEXURE A

Grade 10A Seating plan



Scale 1:50

QUESTION 3
ANNEXURE B



(Source: Platinum Mathematical Literacy CDROM)

QUESTION 4
ANNEXURE C

