



**KWAZULU-NATAL PROVINCE**

**EDUCATION**  
REPUBLIC OF SOUTH AFRICA

**NATIONAL  
SENIOR CERTIFICATE**

**GRADE 12**

**MATHEMATICAL LITERACY  
INVESTIGATION  
TERM 1 2023**

**MARKS : 50**

**DURATION: 1 Week**

**NAME OF SCHOOL:** \_\_\_\_\_

**EDUCATOR:** \_\_\_\_\_

**DEPARTMENTAL HEAD:** \_\_\_\_\_

**This Investigation consists of 10 pages**

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## INSTRUCTIONS AND INFORMATION

1. This Investigation consists of TWO questions. Answer ALL the questions.
2. Number the answers correctly according to the numbering system used in this 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. Ensure that all the questions in your questionnaire are not leading questions.
7. Avoid biased and stereotyped questions.
8. Graphs must be clearly and correctly labeled.
9. This work must be done and presented individually.
10. Write neatly and legibly.

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Zanele is planning for 2024 and she is looking at different options available for her after completing Matric. She has heard of a number of people who take a gap year after school and would like to know if this is an option she should pursue.



**NB: GAP YEAR** is an academic year, taken by a student as a break between school and University or College education.

In this Investigation you will be required to advise Zanele on whether or not to take a Gap year.

Zanele's aunt suggests that she ask her peers for their opinion and she used the following questionnaire:

**NOTE: DO NOT ANSWER THE FOLLOWING QUESTIONS**

**QUESTIONNAIRE SUGGESTED BY ZANELE'S AUNT.**

1. Why do you think that it is wise to take a gap year after school?
2. What are the benefits of taking a gap year?
3. What are the reasons for delaying a gap year than first pursuing a university degree?
4. What is the best way to spend a gap year?

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## SECTION A

### QUESTION 1

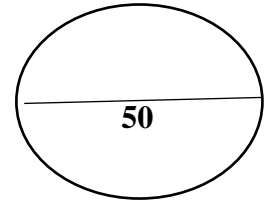
- 1.1 After working through the suggested questions, Zanele realises that the questionnaire is not suitable. List two reasons why you think that the given questionnaire is NOT suitable. (2)
- 1.2 Revise the suggested questionnaire so that it is more suitable. Include 5 reasons for taking a Gap year. Submit a copy of a new, revised questionnaire. (2)
- 1.3 Conduct a Survey with a minimum of 20 people. Complete the designed questionnaire in 1.2. Remind participants why you are doing the survey and that their information will be kept confidential. Submit 20 original completed questionnaires. (2)
- 1.4 What is the difference between a questionnaire and an Interview. (2)
- 1.5 Name the next step in the statistical cycle after the Data collection has been completed. (2)
- 1.6 State the type of data that has been collected. (2)

## SECTION B

### QUESTION 2

- 2.1. Write down the number of males and females that participated in this investigation. (2)
- 2.2. State whether the data collected is bias or not. Give a reason for your answer (3)
- 2.3. Calculate the percentage of females that will be taking a gap year (3)
- 2.4. Draw up a frequency table where you tally five different reasons for taking a gap year. (5)
- 2.5. Use your frequency table in 2.4. to draw a bar graph representing your findings (8)
- 2.6. Refer to the graph and state the least popular reason for taking a gap year. (2)
- 2.7. Based on your research and the graph, what advise will you give Zanele?  
Include the following in your answer:
  - Whether or not taking a gap year is a good idea.
  - The main reason for taking a gap year.
  - The main reason against taking a gap year.
  - The best gap year options.
  - The final decision about whether or not Zanele should take a gap year in 2024 (5)

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**GR 12 INVESTIGATION: LEARNER ANSWER BOOKLET**

Name of learner: \_\_\_\_\_

Grade/ Div: \_\_\_\_\_

**SECTION A**

**QUESTION 1**

1.1 \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (2)

1.2. Questionnaire marked using rubric. (8)

1.3. Evidence of completed questionnaire (5)

1.4. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (3)

1.5. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (3)

1.6. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (2)

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**SECTION B**

**QUESTION 2**

2.1. Number of males: \_\_\_\_\_ Number of females: \_\_\_\_\_ (2)

2.2. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (3)

2.3. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (2)

2.4. **Frequency Table**

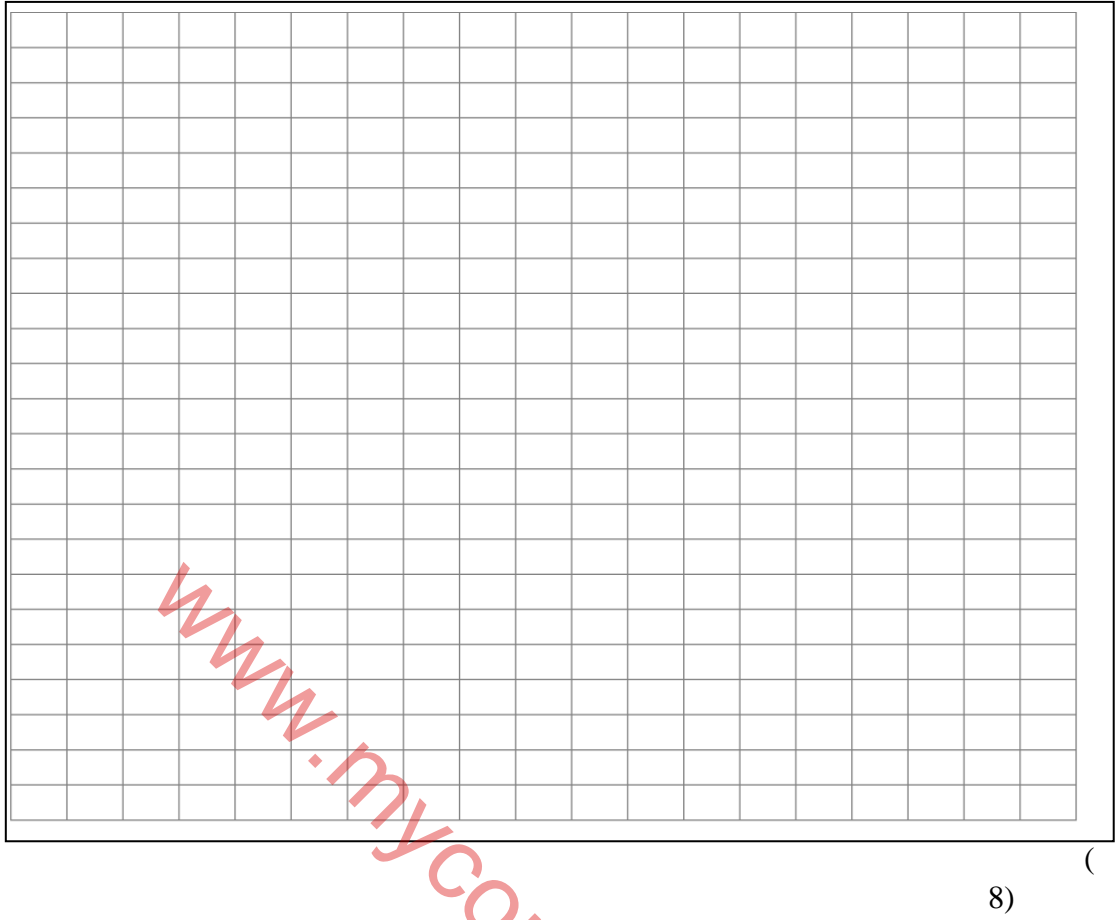
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(5)

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### 2.5. Bar Graph

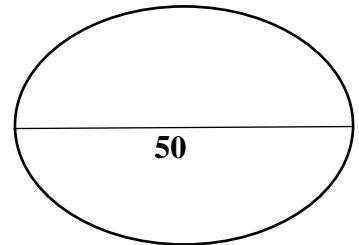


2.6. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (2)

2.7. Based on your research and refer to the graph, what advise will you give Zanele?

\_\_\_\_\_  
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**TOTAL: 50****MARKING RUBRIC**
**NAME OF LEARNER:** \_\_\_\_\_ **GRADE 12** \_\_\_\_\_
**1.1.**

	<b>2</b>	<b>1</b>	<b>0</b>
<b>Two reasons</b>	Two correct reasons	One correct reason	Not done/Incorrect reasons

**1.2: The Questionnaire**

<b>CRITERIA</b>	<b>Maximum mark</b>	<b>2</b>	<b>1</b>	<b>0</b>
<input type="checkbox"/> Questionnaire is created electronically/hand written, appropriate to the way it will be administered	<b>2</b>	Neatly presented with no mistakes. Focus on the topic	Very disjointed form and does not relate to the topic	No questionnaire done
<input type="checkbox"/> Appropriate headings with appropriate questions. All questions provided are relevant to the topic and will help in the investigation. Includes questions that will give data/statistical type answers, for example How many? How many times, How often?	<b>2</b>	All questions focus on topic	Some questions are not related to the topic	None of the questions focus on the topic
<input type="checkbox"/> Clear instructions/prompts to guide user	<b>2</b>	Clear instructions given	Some instructions given	No instructions given
<input type="checkbox"/> Maximum one (1) page with at least 5 questions,	<b>2</b>	5 questions	Between 1-3 questions	No questions

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	<b>CRITERIA</b>	<b>Maximum mark</b>	<b>2</b>	<b>1</b>	<b>0</b>
	<b>TOTAL</b>	<b>8</b>			

**1.3.**

	<b>5</b>	<b>2</b>	<b>0</b>
<b>Submission of 20 questionnaires</b>	Only if all 20 questionnaires have been fully completed.	Submitted 1-10 completed questionnaires	No evidence of questionnaire

**1.4.**

<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>
<b>Yes or No</b> Stated an appropriate reason for the response	Stated an appropriate reason for the response	Answer is YES or NO	Did not answer this question

**1.5.**

	<b>2</b>	<b>0</b>
Name the next step in the data cycle after the instrument has been completed and collected.	Stated the correct step.	Did not answer this question

**1.6.**

	<b>2</b>	<b>0</b>
<b>Type of data collected</b>	Correct answer	Did not answer this question

**2.1.**

	<b>2</b>	<b>1</b>	<b>0</b>
<b>Number of boys and girls</b>	Correct number of boys and girls	Incorrect number of boys and girls	Not done

**2.2**

	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>
<b>Stating whether the data was</b>	Stating whether the data is biased or	Stating whether the data is biased or	Stating whether the data is biased or unbiased with	Not done

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<b>biased with the correct reason</b>	unbiased with correct reason	unbiased with incorrect reason	no reason.	
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## 2.3.

	<b>3</b>	<b>1</b>	<b>0</b>
<b>Calculating the percentage of females in the data collected</b>	Calculating the percentage correctly	Identifying the correct number of females	Not done

## 2.4.

	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>
<b>Tally frequency Table</b>	Five reasons for gap year included in table and completed with frequency	Four reasons for gap year included in table and completed with frequency	Three reasons for gap year included in table and completed with frequency	Two reasons for gap year included in table and completed with frequency	One reason for gap year included in table and completed with frequency	Table not done

## 2.5.

	<b>8</b>	<b>7</b>	<b>6</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>
<b>Bar Graph</b>	Graphs accurately drawn using the collected data. Graph is titled and the axes clearly labelled	Graphs accurately drawn using the collected data. Graph has no title and the axes are not labelled	Graphs accurately drawn using the collected data. Graph has no title and axes is not labelled	Five bars accurately drawn and not labelled	Four bars accurately drawn and not labelled	Three bars accurately drawn and not labelled	Two bars accurately drawn and not labelled	One bars accurately drawn and not labelled	Graph not done

## 2.6.

	<b>2</b>	<b>0</b>
<b>Least popular reason for gap year</b>	Correct reason stated from the graph	Not done or incorrect reason stated from the graph

## 2.7.

	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>
<b>Summary</b>	Also included the their final decision	Also listed the best gap year option	Also included the main reason against taking a gap	Also included the main reason for taking a	Only stated Whether or not people feel that taking a gap	Not done

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	about whether or not to take a gap year		year	gap year	year is a good idea.	
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