



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

SENIOR CERTIFICATE EXAMINATIONS/ NATIONAL SENIOR CERTIFICATE EXAMINATIONS

GEOGRAPHY P1

MAY/JUNE 2026

Stanmorephysics.com

MARKS: 150

TIME: 3 hours

This question paper consists of 20 pages.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of TWO sections.

SECTION A

QUESTION 1: CLIMATE AND WEATHER (60)

QUESTION 2: GEOMORPHOLOGY (60)

SECTION B

QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES (30)

2. Answer ALL THREE questions.
3. ALL diagrams are included in the question paper.
4. Leave a line between the subsections of questions answered.
5. Start EACH question at the top of a NEW page.
6. Number the answers correctly according to the numbering system used in this question paper.
7. Do NOT write in the margins of the ANSWER BOOK.
8. Draw fully labelled diagrams when instructed to do so.
9. Answer in FULL SENTENCES, except when you have to state, name, identify or list.
10. Units of measurement MUST be indicated in your final answer, e.g. 1020 hPa, 14 °C and 45 m.
11. You may use a non-programmable calculator.
12. You may use a magnifying glass.
13. Write neatly and legibly.

SPECIFIC INSTRUCTIONS AND INFORMATION FOR SECTION B

14. A 1 : 50 000 topographical map 3127BD ELLIOT (KHOWA) and a 1 : 10 000 orthophoto map 3127BD 8 ELLIOT (KHOWA) are provided.
15. The area demarcated in RED/BLACK on the topographical map represents the area covered by the orthophoto map.
16. Show ALL calculations. Marks will be allocated for steps in calculations.
17. You must hand in the topographical and orthophoto map to the invigilator at the end of this examination.

SECTION A: CLIMATE AND WEATHER AND GEOMORPHOLOGY

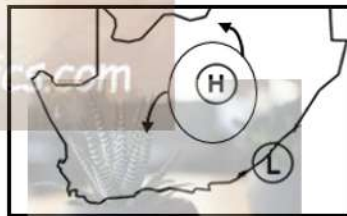
QUESTION 1: CLIMATE AND WEATHER

- 1.1 Various options are provided as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question numbers (1.1.1 to 1.1.8) in the ANSWER BOOK, e.g. 1.1.9 D.

1.1.1 On a synoptic weather map, closely spaced isobars indicate ...

- A gentle winds.
- B strong winds.
- C light rain.
- D clear skies.

1.1.2 The low-pressure cell located on the east coast in the sketch below is a ... low.



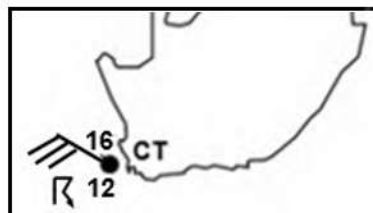
[Source: Examiner's own sketch]

- A thermal
- B tropical
- C coastal
- D mid-latitude

1.1.3 Weather generally associated with a low-pressure system in the interior of South Africa:

- A Clear skies and moderate winds
- B Dry and hot conditions
- C Cloudy skies with a possibility of precipitation
- D Strong anticyclonic flow and cold conditions

Refer to the sketch below to answer QUESTIONS 1.1.4 to 1.1.6.



[Source: Examiner's own sketch]

1.1.4 The weather at Cape Town (CT) can be described as ...

- A 8/8 cloud cover with a wind speed of 10 knots.
- B overcast conditions with a wind speed of 30 knots.
- C snow with a wind speed of 30 knots.
- D rain with a wind speed of 20 knots.



1.1.5

The cause of the weather conditions at Cape Town could be due to ... conditions.

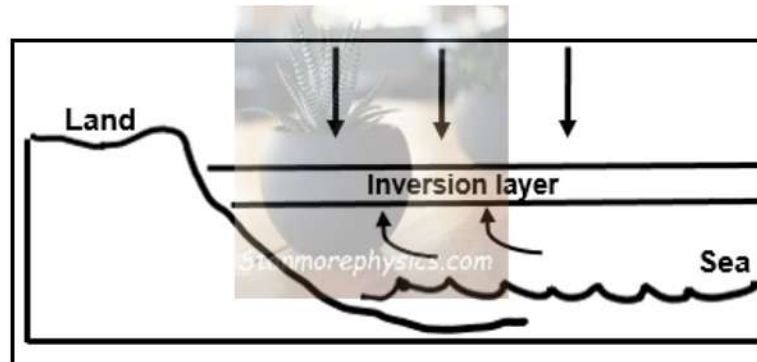
- A cold front
- B warm front
- C frontal rain
- D convectional rain

1.1.6

A meteorologist would interpret the small difference between air and dew-point temperature as ...

- A low humidity levels.
- B a possibility of snow.
- C a high possibility of rain.
- D an approaching cold front.

Refer to the sketch below showing the position of the inversion layer to answer QUESTIONS 1.1.7 and 1.1.8.



[Source: Examiner's own sketch]

1.1.7

The season represented on the sketch is ...

- A autumn.
- B summer.
- C spring.
- D winter.

1.1.8

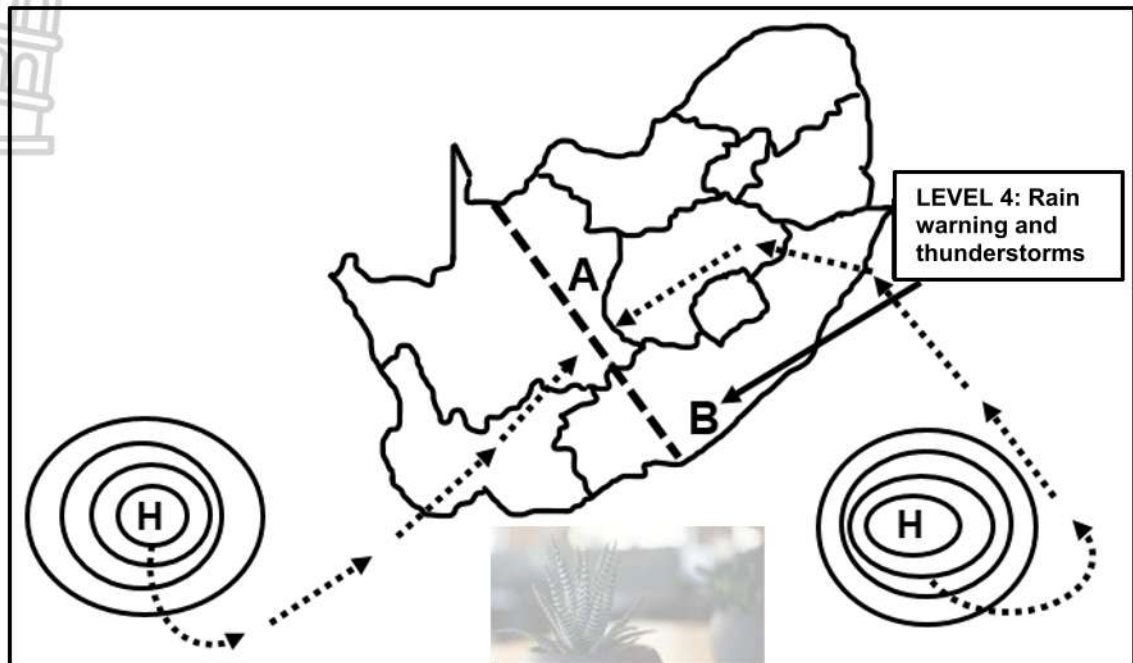
The inversion layer forms due to ...

- (i) low temperatures over the land.
- (ii) a weak Kalahari high-pressure system.
- (iii) high temperatures over the land.
- (iv) a dominant Kalahari high-pressure system.

- A (i) and (iii)
- B (i) and (iv)
- C (ii) and (iv)
- D (ii) and (iii)

(8 x 1) (8)

- 1.2 Refer to the sketch map below and complete the statements in COLUMN A with the options in COLUMN B. Write only **Y** or **Z** next to the question numbers (1.2.1 to 1.2.7) in the ANSWER BOOK, e.g. 1.2.8 Y.

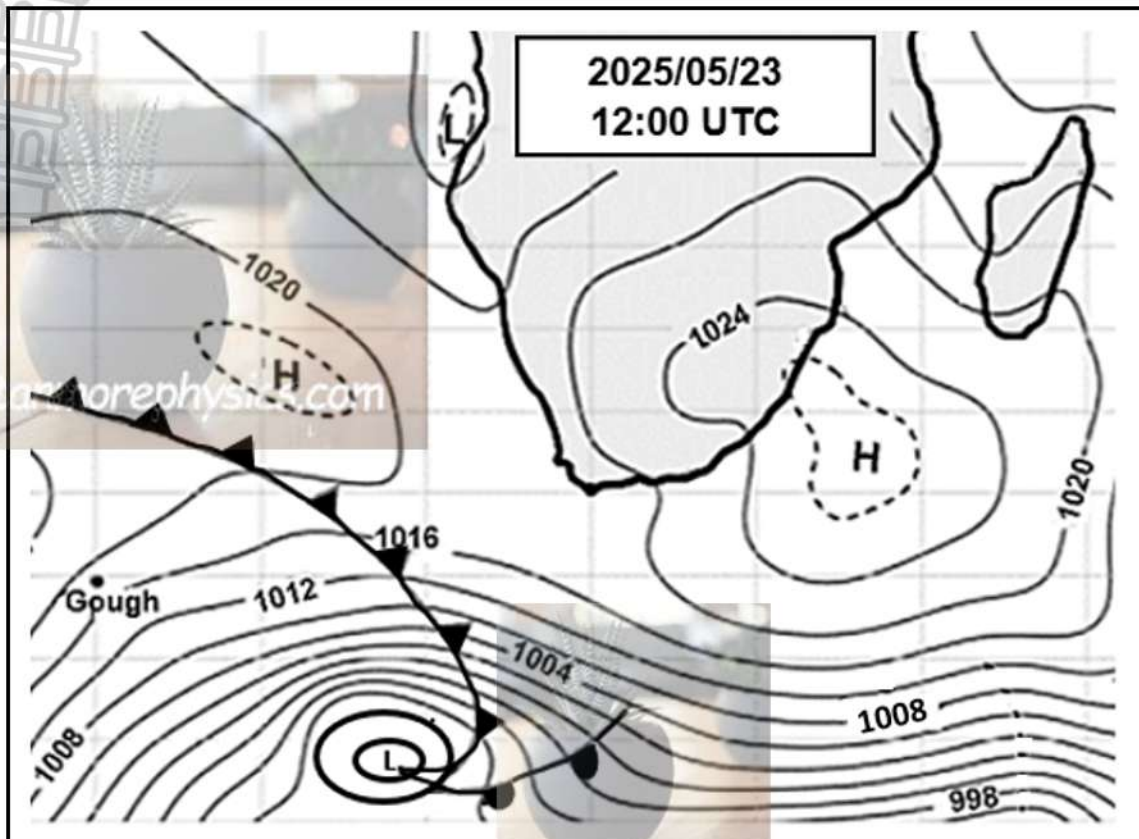


[Source: Examiner's own sketch]

COLUMN A		COLUMN B	
1.2.1	Front A over the interior of South Africa is called a ...	Y	moisture front
		Z	cold front
1.2.2	Front A will give rise to the formation of ... thunderstorms.	Y	frontal
		Z	line
1.2.3	The ... high-pressure cell brings more moisture onto the land.	Y	South Atlantic
		Z	South Indian
1.2.4	Thunderstorms occur to the ... of front A .	Y	east
		Z	west
1.2.5	The synoptic weather map symbol that represents the weather at B	Y	
		Z	
1.2.6	The type of clouds that will be found at B	Y	cumulus
		Z	cumulonimbus
1.2.7	The clouds at B develop from ... of warm air.	Y	undercutting
		Z	over-riding

(7 x 1) (7)

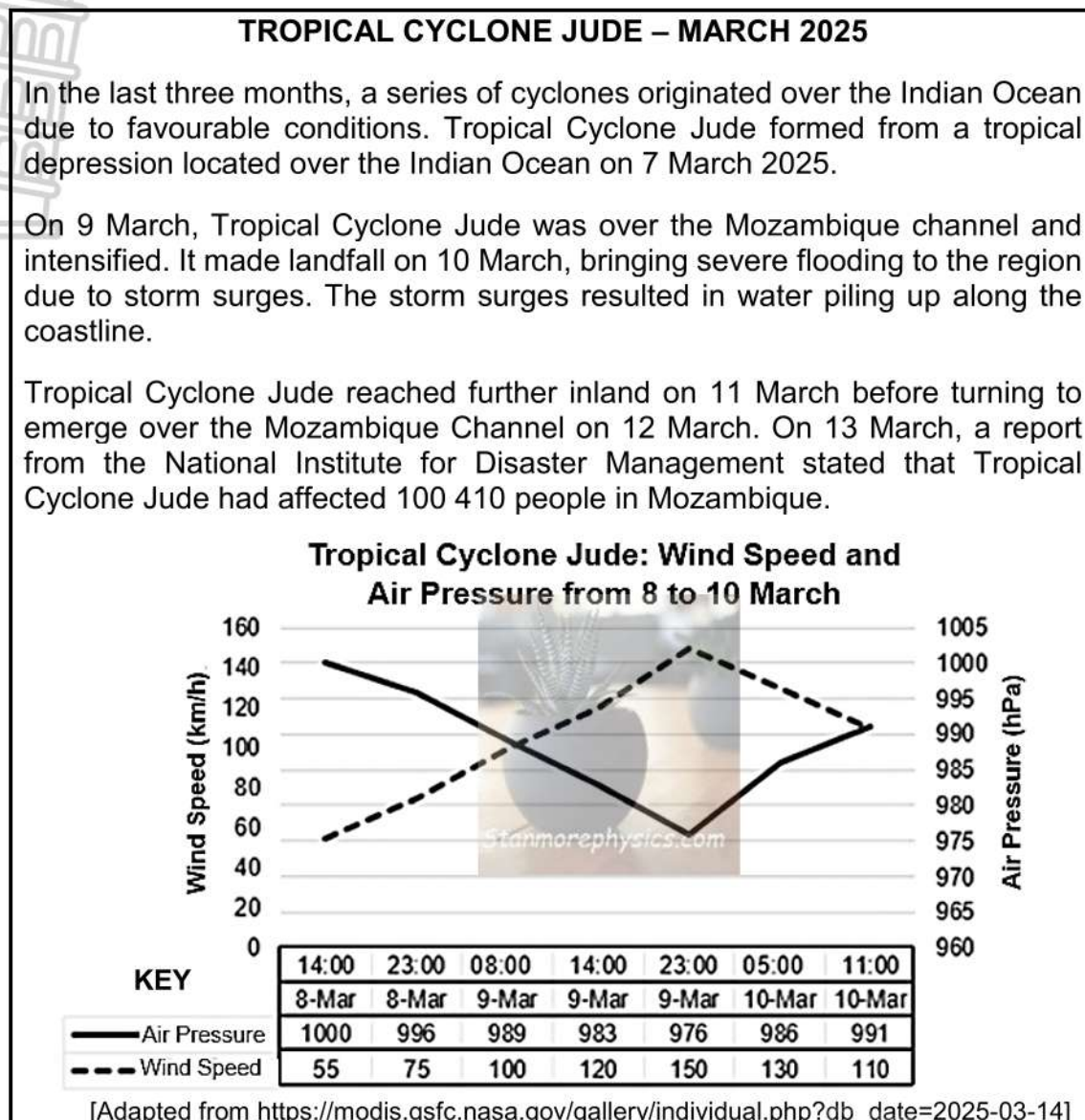
- 1.3 Refer to the synoptic weather map below showing a mid-latitude cyclone.



[Adapted from South African Weather Services, 9 May 2025]

- | | | | |
|-------|---|---------|-----|
| 1.3.1 | Name the global wind system causing the cold front to approach from the west of South Africa. | (1 x 1) | (1) |
| 1.3.2 | What evidence indicates that the mid-latitude cyclone is in the mature stage? | (1 x 2) | (2) |
| 1.3.3 | Why is the warm front unlikely to affect the Western Cape? | (1 x 2) | (2) |
| 1.3.4 | Give evidence from the synoptic weather map that strong damaging winds will affect the Western Cape due to the approaching cold front. | (1 x 2) | (2) |
| 1.3.5 | Account for the expected changes in temperature and precipitation that the Western Cape will experience with the passing of the cold front. | (2 x 2) | (4) |
| 1.3.6 | How is the frontal rainfall associated with mid-latitude cyclones beneficial to farming in the Western Cape in winter? | (2 x 2) | (4) |

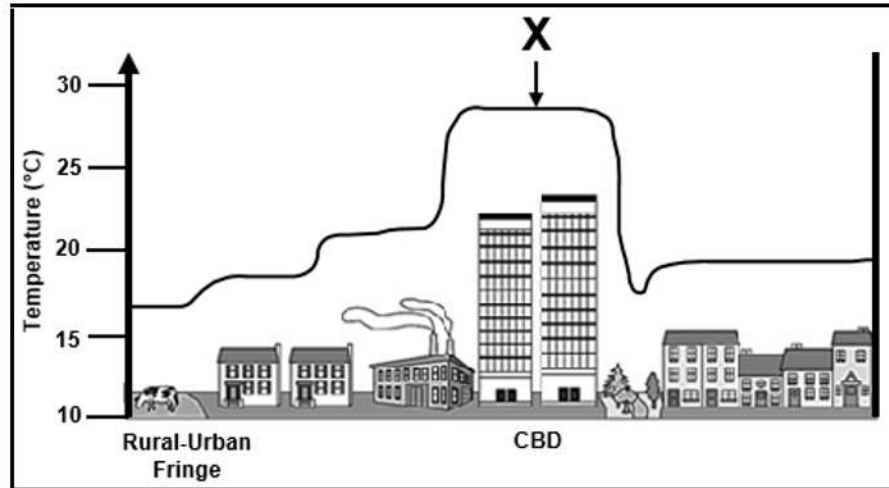
1.4 Refer to the extract and graph below on Tropical Cyclone Jude.



- 1.4.1 According to the extract, over which ocean did Tropical Cyclone Jude originate? (1 x 1) (1)
- 1.4.2 State a weather condition responsible for the large number of tropical cyclones that originated over this ocean. (1 x 2) (2)
- 1.4.3 Refer to the graph. What evidence suggests that Tropical Cyclone Jude was in the mature stage on 9 March at 23:00? (1 x 2) (2)
- 1.4.4 Explain why storm surges are commonly associated with tropical cyclones. (1 x 2) (2)
- 1.4.5 In a paragraph of approximately EIGHT lines, account for the destructive physical (natural) impact of storm surges on coastal areas. (4 x 2) (8)

1.5 Refer to the infographic below on urban heat islands.

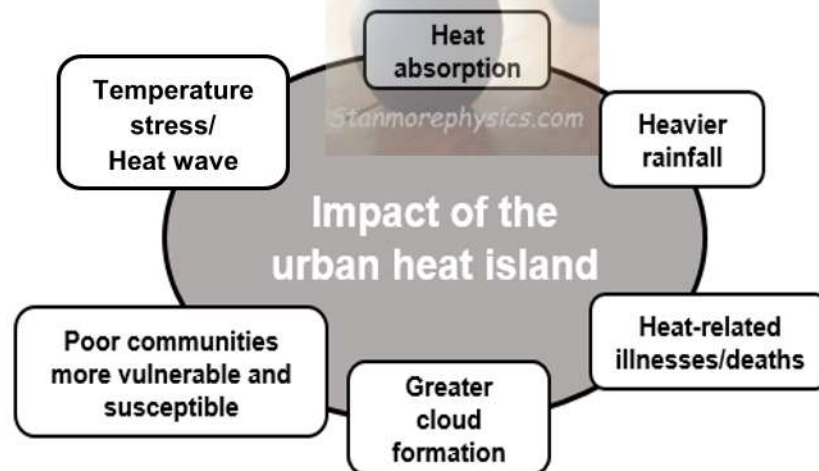
A: URBAN HEAT ISLAND



[Adapted from

<https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.savemyexams.com%>]

B: MIND MAP SHOWING THE IMPACT OF URBAN HEAT ISLANDS



EXTRACT

The decrease of green space (area covered in vegetation) in urban areas is a widespread factor contributing to the negative impact of urban heat islands. Poor urban communities are more likely to suffer from heat stress. There is a need to identify vulnerable populations to implement suitable solutions. Standard operating procedures for planning to regulate urban heat effectively and promote sustainable urban expansion is necessary. In addition, sustainable urban strategies may effectively allow for the growth of dense developments, while still preserving and conserving natural ecosystems.

[Adapted from <https://link.springer.com>]



1.5.1 Define the concept *urban heat island*. (1 x 2) (2)

Refer to **A**.

1.5.2 State the temperature at **X**. (1 x 1) (1)

1.5.3 Give TWO reasons for the temperature recorded at **X**. (2 x 2) (4)

Refer to mind map **B**, showing the impact of urban heat islands.

1.5.4 State TWO physical (natural) impacts of urban heat islands. (2 x 1) (2)

Refer to the extract.

1.5.5 Explain how sustainable urban strategies could be put in place to reduce the impact of urban heat islands. (3 x 2) (6)
[60]



QUESTION 2: GEOMORPHOLOGY

- 2.1 Complete the statements in COLUMN A with the options in COLUMN B based on types of rivers and their flow characteristics. Write only **Y** or **Z** next to the question numbers (2.1.1 to 2.1.7) in the ANSWER BOOK, e.g. 2.1.8 Y.

COLUMN A		COLUMN B	
2.1.1	A permanent river that flows through an arid region in the lower course	Y	exotic
		Z	episodic
2.1.2	A type of river commonly found in the interior of South Africa	Y	permanent
		Z	periodic
2.1.3	The water table is always above the level of the river bed	Y	permanent
		Z	episodic
2.1.4	Represents a periodic river:	Y	
		Z	

KEY	
Wet season water table	—
Dry season water table	- - - -

Refer to the photographs below to answer QUESTIONS 2.1.5 to 2.1.7.



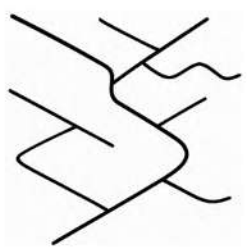
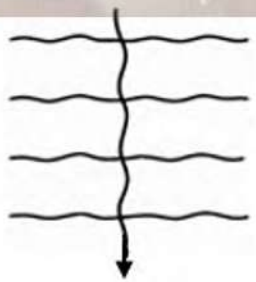
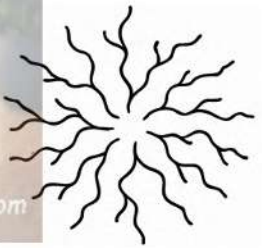
[Source: <https://www.google.com/search?q=laminar+and+non+turbulent+rivers>]

2.1.5	River B shows ... flow of water.	Y	laminar
		Z	turbulent
2.1.6	The speed of river A is ... than river B .	Y	lower
		Z	higher
2.1.7	This river carries a higher stream load.	Y	A
		Z	B

(7 x 1) (7)

- 2.2 Various options are provided as possible answers to the following questions based on drainage patterns. Choose the answer and write only the letter (A–D) next to the question numbers (2.2.1 to 2.2.8) in the ANSWER BOOK, e.g. 2.2.9 D.

Refer to the sketches below of drainage patterns to answer QUESTIONS 2.2.1 to 2.2.6.

DENDRITIC	RECTANGULAR
	
TRELLIS	CENTRIPETAL
	

[Source: ChatGPT-generated sketch]

- 2.2.1 A centripetal drainage pattern develops when streams ...
- A flow outwards from a central point.
 - B join the main river at right angles.
 - C flow towards the central point.
 - D flow parallel to each other.
- 2.2.2 The drainage pattern that is influenced by a steep gradient is ...
- A centripetal.
 - B dendritic.
 - C trellis.
 - D rectangular.
- 2.2.3 The tributaries in a dendritic drainage pattern join the main stream at a/an ... angle.
- A 90°
 - B acute
 - C perpendicular
 - D 180°



2.2.4

The underlying rock structure of a dendritic drainage pattern is a/an ...

- A uneven rock structure.
- B dome rock structure.
- C varying resistance of rock layers.
- D uniform rock structure.

2.2.5

A rectangular drainage pattern is the result of ...

- A faulting.
- B lava flows.
- C alluvial deposition.
- D headward erosion.

2.2.6

Tributaries generally join the main stream at 90° in a ... and ... stream pattern.

- (i) radial
- (ii) trellis
- (iii) rectangular
- (iv) dendritic

- A (i) and (ii)
- B (i) and (iv)
- C (ii) and (iii)
- D (iii) and (iv)



2.2.7

The total length of streams per unit area in a drainage basin refers to ...

- A drainage patterns.
- B drainage density.
- C drainage discharge.
- D catchment area.

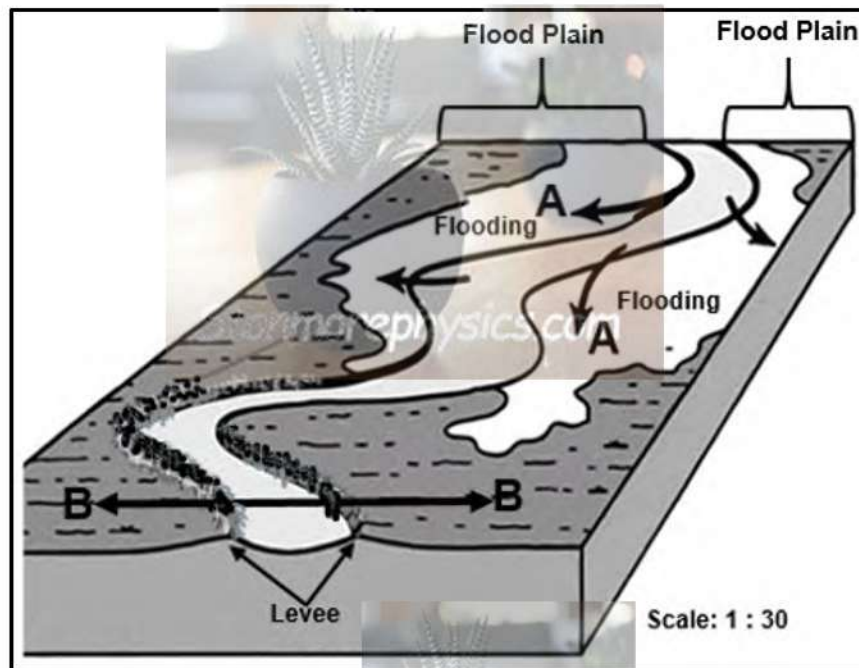
2.2.8

Factors that increase the total length of streams per unit area are ... and ...

- (i) gentle gradient
- (ii) high run-off
- (iii) dense vegetation
- (iv) low infiltration

- A (i) and (ii)
- B (i) and (iii)
- C (ii) and (iv)
- D (ii) and (iii)

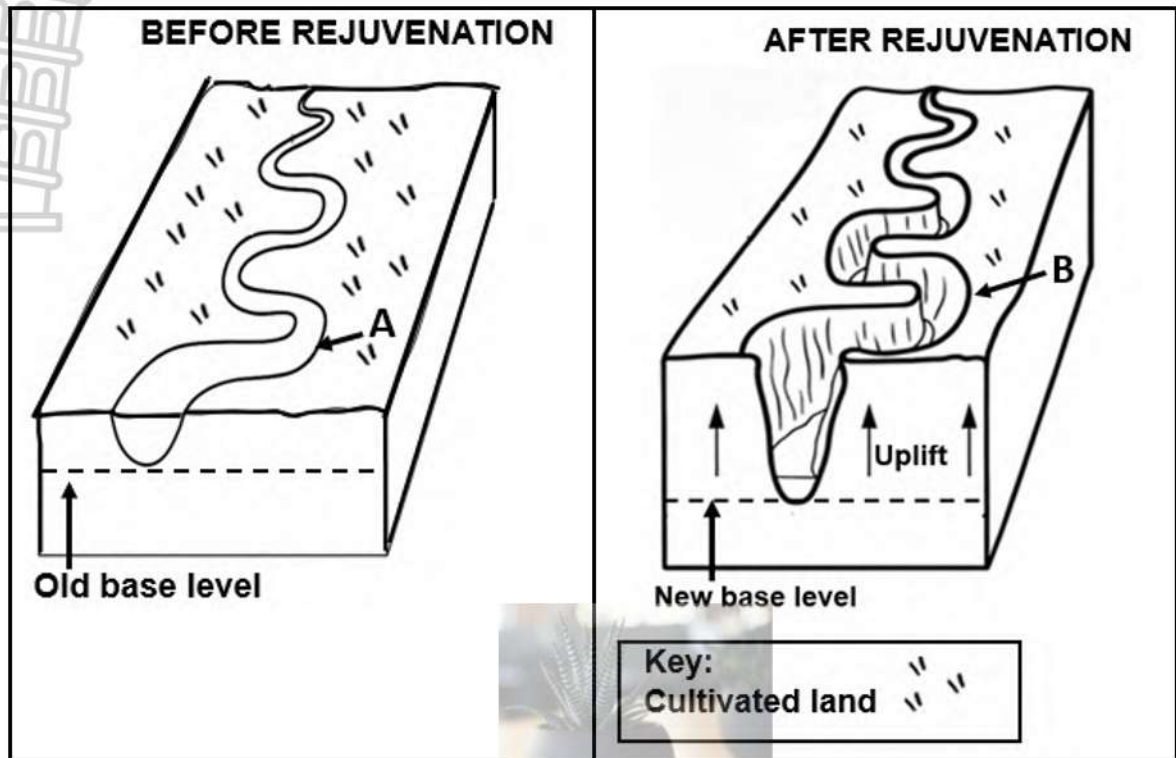
2.3 Refer to the sketch below showing a flood plain and natural levees.



[Adapted from Chat GPT-generated diagram]

- | | | | |
|-------|--|---------|-----|
| 2.3.1 | Flood plains and levees form as a result of (erosion/deposition). | (1 x 1) | (1) |
| 2.3.2 | What benefits do flood plains have as a natural habitat? | (2 x 1) | (2) |
| 2.3.3 | Discuss reasons why flooding occurred in area A . | (2 x 2) | (4) |
| 2.3.4 | Draw a fully labelled cross-section from B to B . Marks will be awarded for the following: | | |
| | (a) Cross-section | | |
| | (b) Levee | | |
| | (c) Flood plain | | |
| | (d) River | (4 x 1) | (4) |
| 2.3.5 | Explain the development of levees and how it has limited flooding in area B . | (2 x 2) | (4) |

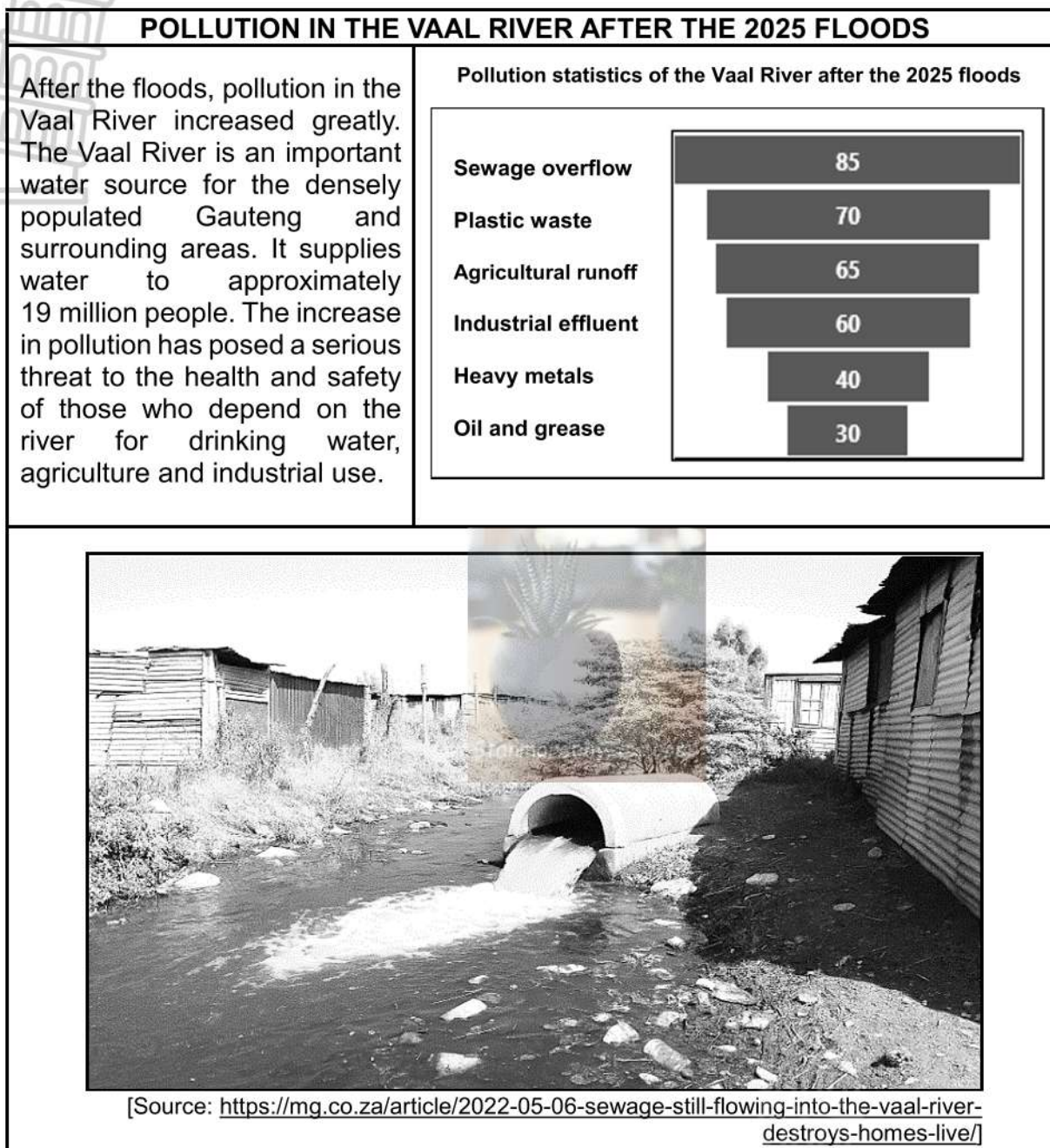
2.4 Refer to the sketches below on river rejuvenation.



[Source: <https://www.google.com/search?+rejuvenation>]

- 2.4.1 What is *river rejuvenation*? (1 x 2) (2)
- 2.4.2 Name the fluvial landform/feature **B** that formed after rejuvenation. (1 x 1) (1)
- 2.4.3 Explain how river rejuvenation changed landform **A** into landform **B**. (2 x 2) (4)
- 2.4.4 In a paragraph of approximately EIGHT lines, explain how river rejuvenation will negatively impact farming along the river. (4 x 2) (8)

2.5 Refer to the infographic below based on catchment and river management.



Refer to the extract.

- 2.5.1 (a) How many people rely on the Vaal River for their water supply? (1 x 1) (1)
- (b) Name ONE way in which people depend on the Vaal River. (1 x 1) (1)
- 2.5.2 Refer to the pollution statistics to determine the main cause of pollution in the Vaal River after the 2025 floods. (1 x 1) (1)



2.5.3 Use evidence in the photograph to explain the cause of pollution in the Vaal River. (1 x 2) (2)

2.5.4 Why do the levels of pollution in the Vaal River increase after periods of flooding? (1 x 2) (2)

2.5.5 Why will the polluted water from the Vaal River have a greater impact on the poor communities living along the river? (2 x 2) (4)

2.5.6 Suggest TWO ways in which local municipalities could reduce the risk of pollution entering the Vaal River. (2 x 2) (4)

[60]

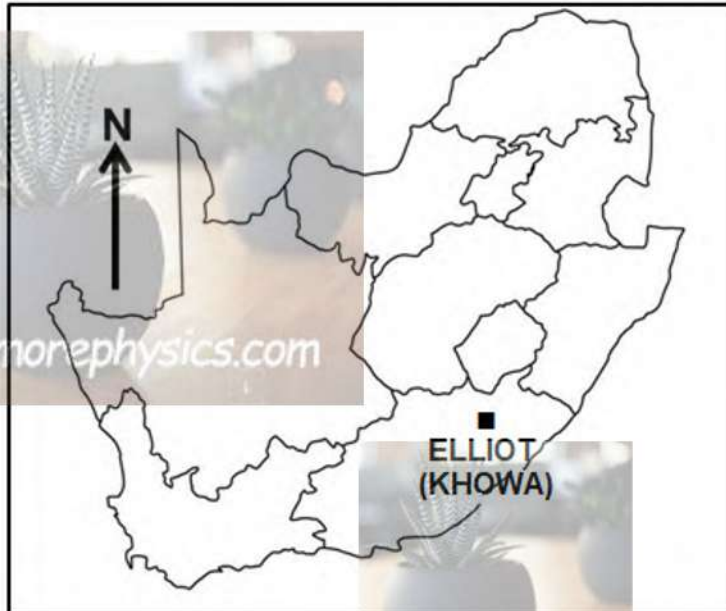
TOTAL SECTION A: 120



SECTION B

QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES

GENERAL INFORMATION ON ELLIOT (KHOWA)



Coordinates: $31^{\circ}20' \text{ S}$; $27^{\circ}51' \text{ E}$

Elliot, also known as Khowa, is a town in the Chris Hani District Municipality in the Eastern Cape, South Africa.

Located at an elevation of 1 493 metres above sea level, Elliot is found at the foot of the southern Drakensberg range. This range features high-altitude plateaus, sandstone formations and various peaks. These attract tourists due to the hiking trails.

The average temperature is $17,4^{\circ} \text{ C}$ which is lower than South Africa's average. Elliot typically receives an average of 83,39 mm of precipitation annually. Elliot receives summer rainfall.

[Adapted from https://en.wikipedia.org/wiki/Elliot,_South_Africa]

The following English terms and their Afrikaans translations are shown on the topographical map:

ENGLISH

Aerodrome
Diggings
River
Sewerage works

AFRIKAANS

Vliegveld
Steengroewe
Rivier
Rioolwerke

3.1 MAP SKILLS AND CALCULATIONS



3.1.1 The grid reference of spot height 1546 in block **A2** on the topographical map is ...

- A $31^{\circ}17'18''$ S; $27^{\circ}50'49''$ E
- B $31^{\circ}50'49''$ S; $27^{\circ}17'18''$ E
- C $27^{\circ}17'23''$ S; $31^{\circ}50'20''$ E
- D $27^{\circ}50'18''$ S; $31^{\circ}17'49''$ E

(1 x 1) (1)

3.1.2 The length of the runway from **F** in block **B2** to **G** in block **B3** on the topographical map is ... km.

- A 220
- B 200
- C 2,02
- D 2,00

(1 x 1) (1)

3.1.3 Determine the true bearing of spot height 1543 in block **D4** from trigonometrical station 173 in block **E2** on the topographical map.

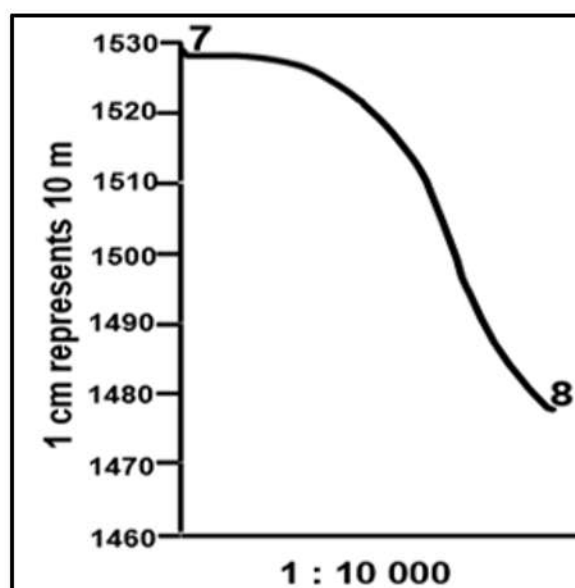
(1 x 1) (1)

3.1.4 The height of index contour line 6 in block **E2** on the orthophoto map is ... metres.

- A 1 475
- B 1 480
- C 1 481
- D 1 482

(1 x 1) (1)

Refer to the rough cross-section below drawn from **7** to **8** on the orthophoto map.





3.1.5 There is no intervisibility between **7** and **8** on the orthophoto map. Identify the type of slope that prevents intervisibility. (1 x 1) (1)

3.1.6 Calculate the vertical exaggeration of the cross-section.

Use the following given information:

Horizontal scale: 1 : 10 000

Formula: **Vertical exaggeration** = $\frac{\text{Vertical scale}}{\text{Horizontal scale}}$ (4 x 1) (4)

3.1.7 Why is it necessary to calculate the vertical exaggeration? (1 x 1) (1)

3.2 MAP INTERPRETATION

Refer to feature **9** in block **D1** on the orthophoto map.

3.2.1 Identify the human-made feature **9**. (1 x 1) (1)

3.2.2 How does the light tone of feature **9** indicate that it was photographed in winter? (1 x 1) (1)

Refer to the topographical map and the orthophoto map.

3.2.3 The cultivated land between **10** and **11** on the orthophoto map is located on the (north/south)-facing slope. (1 x 1) (1)

3.2.4 Explain why the cultivated land is located on this slope (answer to QUESTION 3.2.3). (1 x 2) (2)

Refer to the topographical map and the general information on Elliot (Khowa).

3.2.5 Give evidence why the location of the town of Elliot makes it more likely to experience flooding. (1 x 2) (2)

Refer to stream **H** in block **A1** on the topographical map.

3.2.6 Give map evidence that stream **H** is flowing in a south-easterly direction. (1 x 2) (2)

Refer to block **E3** on the topographical map.

3.2.7 Identify the natural feature **J**. (1 x 1) (1)

3.2.8 Explain how the relief of the area influenced the formation of this feature (answer to QUESTION 3.2.7). (1 x 2) (2)

3.3 GEOGRAPHICAL INFORMATION SYSTEMS (GIS)

Refer to the **R56** in block **D4** on the topographical map.

3.3.1 The **R56** is an example of a (line/polygon) feature. (1 x 1) (1)

3.3.2 Give an attribute of the **R56**. (1 x 1) (1)

Refer to the topographical map.

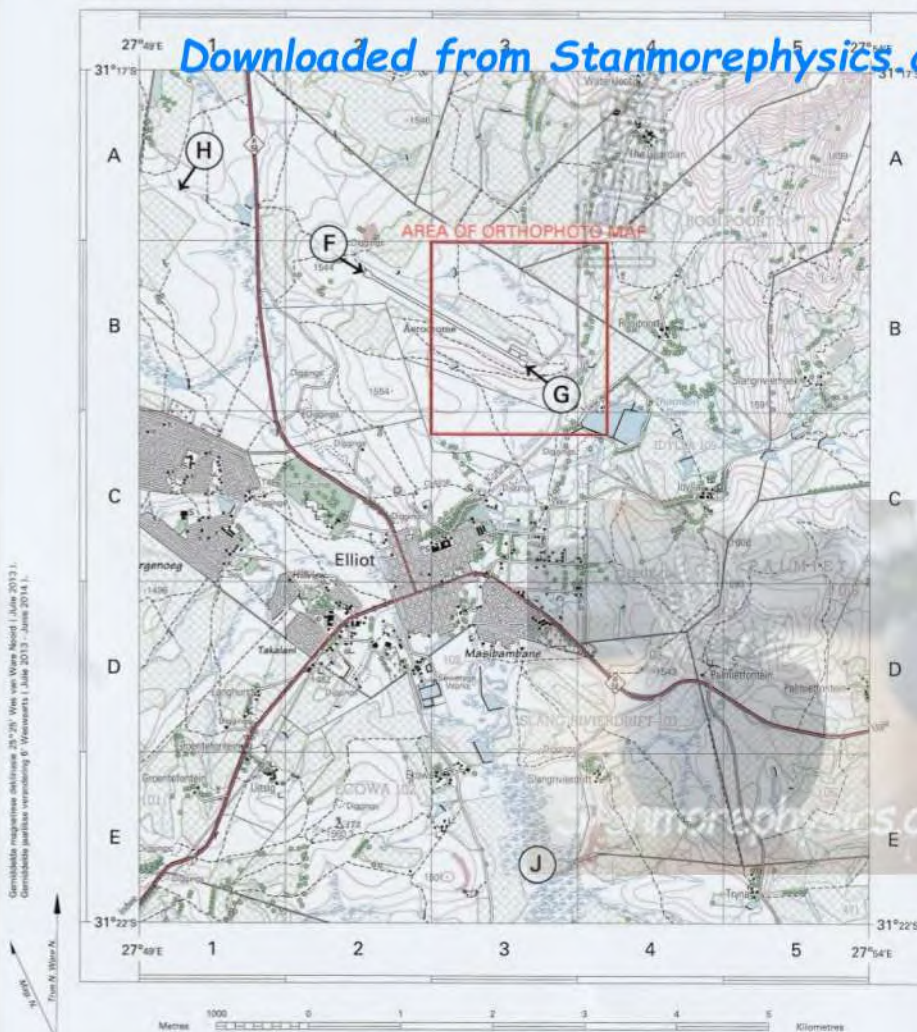
3.3.3 Define the concept *data layer*. (1 x 2) (2)

3.3.4 Name TWO data layers evident on the map that would have been used to determine the location of the Thomson Dam in blocks **B4/C4**. (2 x 1) (2)

3.3.5 Explain how ONE of the data layers (answer to QUESTION 3.3.4) impacts positively on the volume of water in the Thomson Dam. (1 x 2) (2)

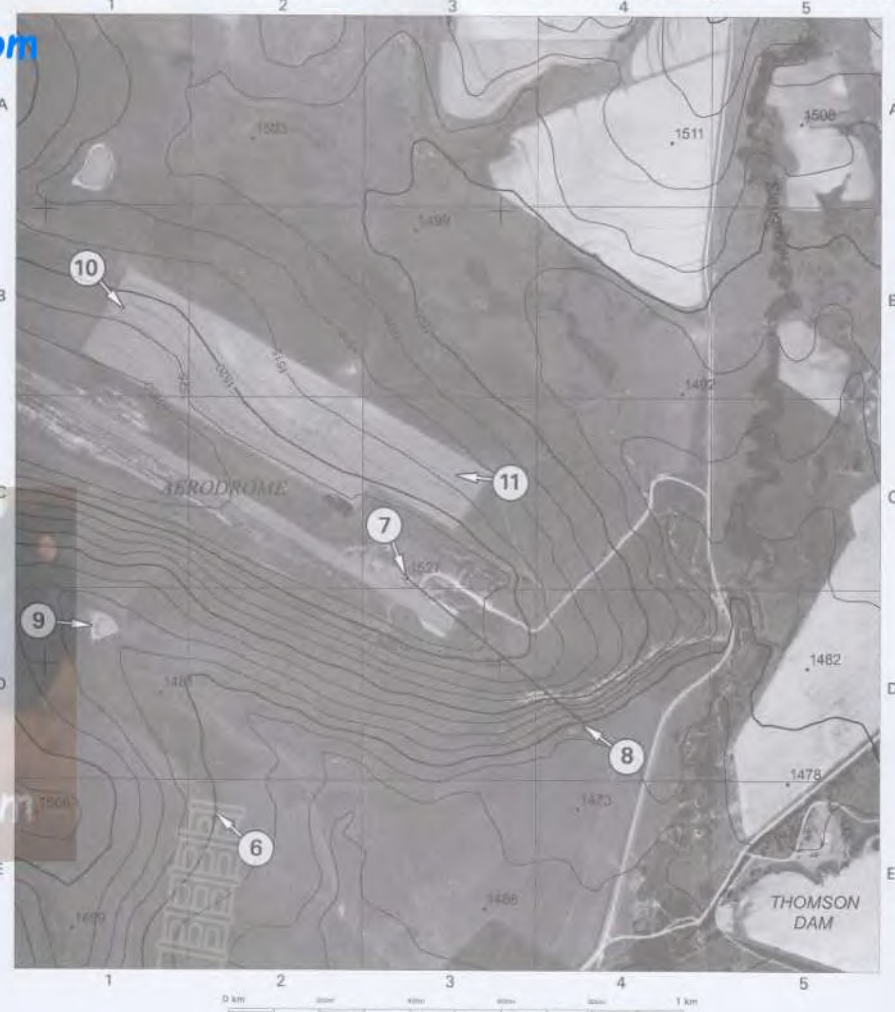
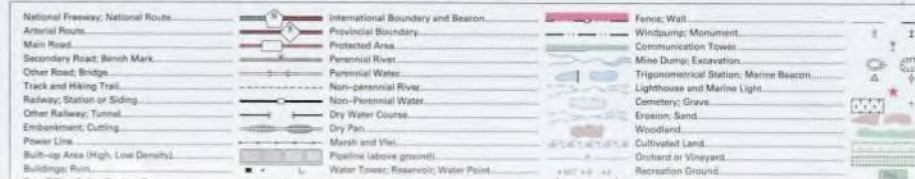
TOTAL SECTION B: 30
GRAND TOTAL: 150





Mean magnetic declination 25°25' West of True North (1 July 2013).
Mean annual change 6" Westwards (1 July 2013 - June 2014).

REFERENCE



CONTOUR INTERVAL 5 METRES / KONTOURINTERVAL 5 METER

VERKLARING





basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

SENIOR CERTIFICATE EXAMINATION/ NATIONAL SENIOR CERTIFICATE EXAMINATION

GEOGRAPHY P1

MAY/JUNE 2026

MARKING GUIDELINES

Stanmorephysics.com

POINTS: 150

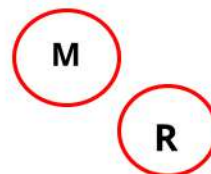
These marking guidelines consist of 14 pages.

MARKING PRINCIPLES FOR GEOGRAPHY - NSC NOVEMBER 2025 AND NSC/SC JUNE 2026

The following marking principles have been developed to standardize marking across all provinces.

MARK

- ALL questions MUST be marked, regardless of whether they are correct or incorrect.
- Where the maximum marks have been awarded for a specific question, place a cross over the rest of the text to indicate that the maximum marks have been achieved.
- When the correct answer is given more than once for the same question
- A clear, neat check mark must be used: - oh
If ONE mark is awarded, ONE tick should be used: - If TWO marks are awarded, oh TWO ticks should be used: -- The tick should be placed at the FACT where a ohmark is awarded. Ticks should be kept SMALL, as different layers of oh moderation may occur.
- Incorrect answers should be marked with a clear, neat cross:- oh
Use MORE than one cross over a paragraph/discussion style questions to indicate that all facts have been considered.
oh DO NOT cross out an incorrect answer. DO NOT
oh underline the incorrect facts.



For the following action words, ONE-word answers are acceptable: **list, mention, identify**

A COMPLETE sentence must be written for the following action words: **describe, explain, evaluate, analyze, Suggest, distinguish, define, discuss, why, how**

The following action words must be read within their context to determine whether a ONE-word answer or FULL sentence is required: **supply, what, tabulate and give**

NOTE THE FOLLOWING

- If the numbering is incorrect or omitted, as long as the order of answers to questions is followed, candidates can be credited.
- Spelling errors, if recognizable, award the points provided the meaning is correct.
- Be sensitive to the meaning of an answer, which could be stated in a different way.
- On questions where a letter is the accepted answer, but the learner writes down the actual answer - award the marks.
- There will be additional guidelines for marking certain questions.

TOTAL AND TRANSFER OF MARKES

- Each sub-question must be added up. oh
Questions in Section A have five subsections, so five sub-totals per question are required. Section B has three subsections and three sub-totals.
oh Subdivision totals should be written in the right-hand margin and underlined.

oh Subtotals must be written legibly.
oh Leave space to enter moderated marks at different levels.
- Add up subtotals and transfer the total to the top left margin next to the question number.
- Transfer total to cover of answer book.

30

QUESTION 1

1.1.1 A (South Atlantic High) (1)-

1.1.2 B (Kalahari High) (1)-

1.1.3 B (South Indian) (1)-

1.2.1 Melting snow-

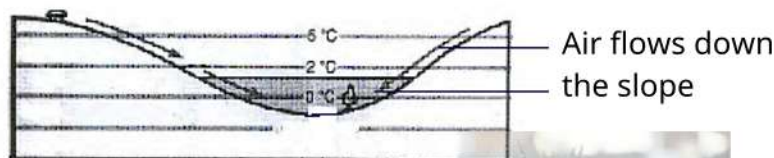
1.2.2 Mouth-

1.2.3 Third order-

1.3.1 Katabatic-

1.3.2 1 occurs during the day while 2 occur at night--

1.3.3 Cold air rolls down into the valley and forms an inversion



1.4.1 Shape of anterior concave-

Steep slope of front-

1.4.2 Warm air undercuts cold air-

1.4.3 Air behind the cold front is colder than the air in front. Cold air moves faster than warm air in front of it. Cold front overtakes the warm front.

1.5.1 (a) A river that only flows all year round-

(b) The river channel is wide-

(c) Frequency of rainfall and the soil type over which the streams flow.

1.5.2 Quickly-teng and the Eastern Cape-

1.5.3 The cost of food production will increase because it is expensive to buy purified water. Farmers will have to buy more chemicals to purify water. Chemicals are expensive and this will increase production costs. It will be expensive to purify water for use in electricity generation. These costs will be included in electricity prices. Costs will increase the price of electricity during production. There will be less clean water to generate hydroelectricity.

to wake up.

SECTION A: CLIMATE AND WEATHER AND GEOMORPHOLOGY

QUESTION 1: CLIMATE AND WEATHER

1.1 1.1.1 B (1)

1.1.2 C (1)

1.1.3 C (1)

1.1.4 B (1)

1.1.5 A (1)

1.1.6 C (1)

1.1.7 D (1)

1.1.8 B (1)

(8 x 1) (8)

1.2 1.2.1 Y (1)

1.2.2 Z (1)

1.2.3 Z (1)

1.2.4 Y (1)

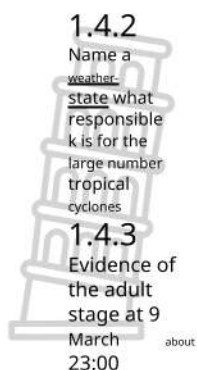
1.2.5 Y (1)

1.2.6 Z (1)

1.2.7 Y (1)

(7 x 1) (7)

1.3 1.3.1	Westwinds (1)	(1 x 1)	(1)
Name globalwind			
1.3.2	Well-formed/developed cold front/warm front (2) Well-formed/developed narrow/warm sector (2) Air pressure at the centre is lower than 1000 hPa/mb (2) Steep pressure gradient/ Isobars are close together (2) [ANY ONE]	(1 x 2)	(2)
Evidence of the adult stage			
1.3.3	The (clockwise) circulation of air pushes the warm front southwards (2) The warm front is too far south (2) [ANY ONE]	(1 x 2)	(2)
Why is it unlikely I know that warm front the World Cup shall influenced?			
1.3.4	The isobars are close together (2) Steep air pressure gradient (2) [ANY ONE]	(1 x 2)	(2)
Evidence of strong winds			
1.3.5	Temperature Temperature drops because the warmer air ahead of the cold front is replaced by cold air (2)		
Explain the change intemperature and precipitation with the pass by of the cold front			
	Precipitation Thunderstorms/increased rainfall/hail are the result of cumulonimbus clouds (2) Snow can be the result of very low temperatures (2) [ANY ONE] [REFER TO BOTH THE TEMPERATURE AND THE PRECIPITATION](2 x 2)		(4)
	INSTRUCTIONS FOR PARTIAL MARK ALLOCATION Temperature Temperatures are dropping (1) Precipitation Thunderstorms/increased rainfall/hail (1) Snow may result (1) [MAXIMUM 2 MARKS – MUST MENTION BOTH ASPECTS]		
1.3.6	Rain fills the water storage facilities (accept examples) (2) Rain increases the volume of water in rivers (2) Make provision for the planting of a variety of crops/fruits (accept examples) (2) Promotes the growth of natural vegetation/grazing (2) It helps to reduce the recurrence/intensity of wildfires (2) Soil becomes fertile It replenishes underground water sources (2) Natural irrigation (2) Reduce the cost of irrigation (2) [ANY TWO]	(2 x 2)	(4)
How is frontal rain advantageous for farming in the World Cup during the winter?			
1.4 1.4.1	Indian Ocean (1)	(1 x 1)	(1)



Minimum temperatures of 26.5°C (2) High moisture content/ High humidity (2) Calm conditions (light variable winds) (2) Air pressure is low (2)

[ANY ONE]

(1 x 2) (2)

The air pressure dropped to the lowest/976 hPa (2)
The wind speed is at its highest/strongest/150 km/h/hurricane strength (2)

[ANY ONE]

(1 x 2) (2)

Strong winds (due to steep air pressure gradient) that push large volumes of seawater onto the coast (2)

Spiral movement of the cyclone causes upward movement of seawater (2)

[ANY ONE]

(1 x 2) (2)

INSTRUCTIONS FOR PARTIAL MARK ALLOCATION Strong winds (1)

Spiral movement (1)

[ANY ONE]

[MAXIMUM ONE POINT]



Coastal flooding due to large volumes of water (2)

Sand dunes are eroded/made unstable by the floods (2) Coastlines are reshaped by the force of the waves (2)

Coastal vegetation will be destroyed by the waves (2)

Deposit of a lot of gravel on the coastline when waves retreat (2)

Coastal erosion is caused by flooding (accept examples) (2) Biodiversity (accept examples) is negatively affected by flooding (2)

Food webs/food chains are destroyed by floods (2) Ecosystems are destroyed by waves (2)

Natural habitats are destroyed by waves (2)

[ANY FOUR]

(4 x 2) (8)

INSTRUCTIONS FOR PARTIAL MARK ALLOCATION Coastal flooding (1)

Sand dunes are eroded/unstable (1)

Coastlines are reshaped (1)

Deposit of a lot of gravel on the coastline (1)

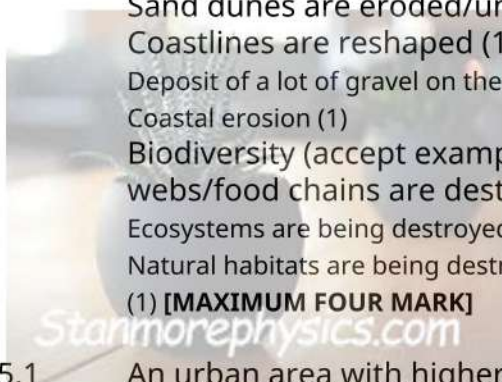
Coastal erosion (1)

Biodiversity (accept examples) is negatively affected (1) Food webs/food chains are destroyed (1)

Ecosystems are being destroyed (1)

Natural habitats are being destroyed

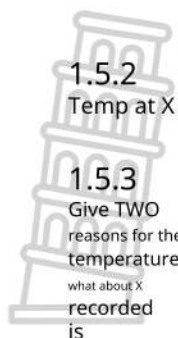
(1) **[MAXIMUM FOUR MARK]**



1.5.1
Urban
heat island
An urban area with higher temperatures surrounded by rural areas with lower temperatures (2)

[CONCEPT]

(1 x 2) (2)



1.5.2 Temp at X 27°C to 29°C (1) (1 x 1) (1)

1.5.3 Give TWO reasons for the temperature what about X recorded is
Decrease in open/green spaces (accept examples) (2)
Artificial surfaces (accept examples) (2) Heat-generating activities (accept examples) (2) Lack of water surfaces (2)
Stormwater drainage systems (2)
High building density (2)
Tall buildings (2)
Higher population density
(2) **[ANY TWO]** (2 x 2) (4)

1.5.4 Mention TWO physical impacts of the urban heat island.
Larger cloud formation (assume smog/fog)
(1) Heavier rainfall (assume acid rain) (1) (2 x 1) (2)

1.5.5 Explain how sustainable strategies can be set is to the impact of urban heat islands to reduce.
Plant more trees to absorb carbon dioxide (2)
Create greenbelts and parks to create a cooling effect around the city (2)
Use environmentally friendly infrastructure (accept examples) to reduce heat (2)
Develop roof or vertical gardens to absorb heat (2) Use light-coloured paint/materials (accept examples) that reflect heat (2)
Use environmentally friendly energy/green energy to reduce heat production (2)
Include water features to lower temperatures (2)
Promote public transport, cycling, walking, carpooling/lift clubs/park-and-ride facilities to reduce artificial heat production (2)
Use cobblestone/paved surfaces to reduce heat absorption (2)
Decentralize industries or commercial activities to reduce air pollution (2)
Introduce fines to regulate pollution from industries (2)
Educate people about the effects of heat island (2)
Create awareness about the effects of heat island (2)
Encourage people to work from home to reduce activities in the city (accept examples) (2)
[ANY THREE] (3 x 2) (6)



INSTRUCTIONS FOR PARTIAL MARK ALLOCATION: Plant more trees (1) Create green spaces and parks (1)

Use environmentally friendly infrastructure (accept examples) (1)

Develop roof or vertical gardens (1)

Use light-colored paint/materials (accept examples) (1)

Use environmentally friendly energy/green energy (1)

Include water features (1)

Promote public transport, cycling, walking, carpooling or park and ride facilities (1)

Use cobblestone/paved surfaces (1) Decentralize industries or commercial activities (1) Introduce fines (1)

Inform people / create awareness ()

Encourage people to work from home (1)

[MAXIMUM THREE MARK]

[60]



QUESTION 2 - GEOMORPHOLOGY

2.1 2.1.1 Y (1)

2.1.2 Z (1)

2.1.3 Y (1)

2.1.4 Y (1)

2.1.5 Z (1)

2.1.6 Z (1)

2.1.7 Y (1)

(7 x 1) (7)

2.2 2.2.1 C (1)

2.2.2 C (1)

2.2.3 B (1)

2.2.4 D (1)

2.2.5 A (1)

2.2.6 C (1)

2.2.7 B (1)

2.2.8 C (1)

(8 x 1) (8)

2.3 2.3.1 Deposition (1)

(1 x 1) (1)

2.3.2 Provide fertile soil (1)

Advantage
of a
flood plain
as a
natural
habitat

Provide water supply (1)

Provide access to food (accept examples) (1)

Support biodiversity (accept examples) (1)

Regulate ecosystems (1)

Provide breeding sites

(1) **[ANY TWO]**

(2 x 1) (2)

2.3.3 The water table rises higher than the banks during times of heavy rainfall

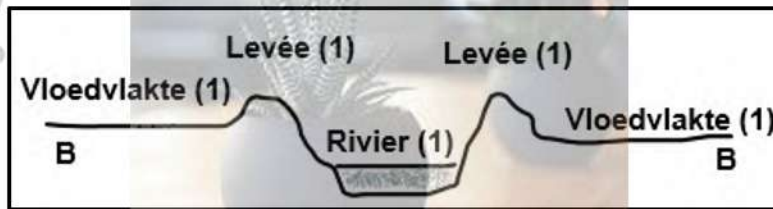
Discuss
reasons for
flooding
at A

(2)

The gradual slope makes it easier during floods (2) Shallow
depth of the river makes flooding possible (2) Saturated soil
leads to less infiltration (2)

[ANY TWO]

(2 x 2) (4)



Cross-section (1)
Levee/bank (1)[**ANY ONE**]
Floodplain (1)[**ANY ONE**] River (1)

(4 x 1) (4)

2.3.5

Explain
like the
formation
of

embankments
(naturally
(there are walls)
and how
it

flood
ing at B
restrict
has

Formation

During (regular) floods, the coarser/heavier material is deposited on the river banks (2)

After floods, the deposited material causes the river banks to rise (2)

[**ANY ONE**]

How flooding is limited

The raised river banks limit the amount of water reaching the floodplains (2)

[**MUST REFER TO BOTH**]

(2 x 2) (4)

2.4 2.4.1 The renewal of a river's erosion power (2)

Definition
of
river
failure

[**CONCEPT**]

(1 x 2) (2)

2.4.2 Notched meander/ Incised meander (1)

(1 x 1) (1)

2.4.3 River rejuvenation led to vertical/lateral erosion (2)

Explain
how much
river
no A
to B
alter
has
PROCESS

Vertical erosion has led to deeper/steeper/valley/lowering of the base level (2)

(2 x 2) (4)

2.4.4 Deep valleys/steep sides make construction (building agricultural infrastructure)

PARAG more expensive (2)

RAVEN: Explain Deep valleys/steep sides reduce the amount of flat/level land available for farming (2)

how much river failure farming (2) Incised meanders make it difficult to reach the river water for irrigation (2)

along the river negative shall influenced d F+K Deep valleys/steep sides lead to less fertile soil (2) Increased erosion and less deposition lead to less fertile soil (2) Destabilization of river banks increases reinforcement costs (2) Vertical/lateral erosion reduces valuable agricultural land (2) Paired terraces reduce the area available for cultivation/crop cultivation is available (2)

[ANY FOUR]

(4 x 2) (8)

INSTRUCTIONS FOR PARTIAL MARK ALLOCATION: Deep valleys/steep sides (1) Incised meanders (1)

Destabilization of river banks (1)

Elevated/vertical/lateral erosion (1)

Paired terraces (1)

[ANY FOUR]

[MAXIMUM FOUR MARK]

2.5 2.5.1 (a) 19 million (1)

(1 x 1) (1)

Mention ONE manner on which people of the Vaal River dependent is.

(b) Drinking water (1)

Agriculture (1)

Industrial use (1)

[ANY ONE]

(1 x 1) (1)

2.5.2 Sewer overflow (1)

(1 x 1) (1)

2.5.3 Households/informal settlements along the river dump/throw waste into the river (accept examples) (2)

Evidence from the photo to the cause of polluted Sewer pipes are (not maintained), waste ends up directly in the water (2)

[ANY ONE]

(1 x 2) (2)

2.5.4 Floodwater washes waste (accept examples) into the river (2)

(1 x 2) (2)

Why take polluted ling then after flood?



2.5.5 Does not have access to potable (piped) water (2)

They use the water (accept examples) from the river (2) They run a high risk of contracting water-borne diseases (accept examples) (2)

The stench/smell of polluted water affects their health (2) They use the river water for irrigating crops (2) It endangers livestock (2)

They do not have the financial means to purify water (2) They cannot afford storage facilities or bottled water (2) **[ANY TWO]**

(2 x 2)

(4)

2.5.6 Building sewerage works (2)

Proper maintenance of sewerage facilities/stormwater drainage systems (2)

Upgrade sewage treatment plants (2) Monitor water quality (2)

Create buffer zones along rivers (2)

Use environmentally friendly pesticides/herbicides (2)

Promote sustainable farming practices (2)

Promote community clean-up programs (accept examples) (2) Enforce laws/bylaws (accept examples) (2)

Build hazardous industries away from rivers

(2) Efficient waste disposal/collection (2)

Control illegal dumping of waste (2)

Educate the public (2)

Creating awareness (accept examples) (2)

Recycling of materials (2)

Provide garbage bins (2)

Encourage the planting and growth of vegetation (2)

Relocate informal settlements/residents (2) Wetland restoration projects (2)

[ANY TWO]

(2 x 2)

(4)

[60]

TOTAL SECTION A:

120

SECTION B

QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES

3.1 3.1.1 A (1) (1 x 1) (1)

3.1.2 D (1) (1 x 1) (1)

3.1.3 65° (clearance $64^{\circ} - 66^{\circ}$) (1) (1 x 1) (1)

3.1.4 B (1) (1 x 1) (1)

3.1.5 Convex (slope) (1) (1 x 1) (1)

3.1.6

VV
Calculation

Formula: Vertical magnification =

$\frac{\text{Vertical Scale}}{\text{Horizontal scale}}$

VS = 1 cm : 10 m x 100 (1)

1 : 1000 (1)

$\frac{1}{1,000}$

$\frac{1}{10,000}$

(Correct substitution)

VV = 10 times (1)

(4 x 1) (4)

3.1.7 To get a clearer view of the phenomena/landscape (1)

Why
birch
VV

To determine how many times the landscape/phenomenon is magnified on the cross-section (1)

[ANY ONE]

(1 x 1) (1)

3.2 3.2.1 Standing water (1)

Human
made
feature
9

(ACCEPT Dam)

(1 x 1) (1)

3.2.2 This indicates little/no water (1)

Tone
/winter

(1 x 1) (1)

3.2.3 North (1)

(1 x 1) (1)

3.2.4 North-facing slopes are warmer/drier which is more suitable for crop production.

why
on
this
slope?

(1 x 2) (2)

3.2.5 Elliot is surrounded by steep slopes (2)

Location of the town
Elliot is situated at the foot of the Drakensberg Mountains (2) Surrounding streams flow towards Elliot (centripetal drainage) (2) **[ANY ONE]**

(1 x 2) (2)

3.2.6 The dam's bank is found south-east of the dam (2)

Proof for a SO river scolding (H)
The V-shape/sharp angle formed by the confluence (connection) of tributaries points downstream (southeast). (2)
Contour lines bend upstream towards the highest point (in a north-westerly direction) (2)
[ANY ONE]

(1 x 2) (2)

3.2.7 Swamp and marsh (1)

(1 x 1) (1)

3.2.8 Flat/evenly sloping ground allows for the accumulation of water. (2)

(1 x 2) (2)

INSTRUCTIONS FOR PARTIAL MARK ALLOCATION: Flat/
even ground
[MAXIMUM ONE POINT]

3.3 3.3.1 Line (1)

(1 x 1) (1)

3.3.2 Main traffic route/road (1)

Attribute of the R56
Width (1)
Length (1)
Excavation (1)
Winding road (1)
[ANY ONE]

(1 x 1) (1)

3.3.3 This is a layer of information (based on a specific theme) (2)

Definition of a data layer
[CONCEPT]

(1 x 2) (2)

3.3.4 Drainage (1)

TWO data layers – location of the dam in B4/C4
Topography/Relief (1)
[ANY TWO]

(2 x 1) (2)

3.3.5 Drainage: More stream channels will increase the volume of water (2)

Explain how much ONE data layer the volume water in the dam influenced d
Topography: A steeper slope will increase the rate of runoff (2)
[ANY ONE]

(1 x 2) (2)

TOTAL SECTION B: [30]
GRAND TOTAL: 150