



|                       |   |                  |
|-----------------------|---|------------------|
| <b>SUBJECT</b>        | : | GEOGRAPHY        |
| <b>CODE</b>           | : | GEOG             |
| <b>GRADE</b>          | : | 10               |
| <b>TASK</b>           | : | MAPWORK TASK     |
| <b>TOTAL TIME</b>     | : | 1 HOUR           |
| <b>TOTAL MARKS</b>    | : | 60               |
| <b>IMPLEMENTATION</b> | : | 25 FEBRUARY 2025 |

**School Name**

**Name of Learner**

| QUESTION           | QUESTION 1 | QUESTION 2 | QUESTION 3 | TOTAL     |
|--------------------|------------|------------|------------|-----------|
| <b>Total</b>       | <b>10</b>  | <b>25</b>  | <b>25</b>  | <b>60</b> |
| Marker             |            |            |            |           |
| School Moderator   |            |            |            |           |
| District Moderator |            |            |            |           |

This Question paper consists of 8 pages, including the cover page.

## SPECIFIC INSTRUCTIONS AND INFORMATION FOR THIS TASK

Downloaded from Stanmorephysics.com

1. A 1:50 000 topographical map (2829 DB LADYSMITH) and a 1:10 000 Orthophoto map (2829 DB 6 LADYSMITH) of a part of the mapped area are provided.
2. All questions are based on the 1:50 000 topographical map (2829 DB LADYSMITH), 1:10 000 Ortho – rectified image (2829 DB 6 LADYSMITH)
3. The area demarcated in RED on the topographic map represents the area covered by the Orthophoto map.
4. You may use magnifying glass
5. Kindly hand in ALL the material given to you by the invigilator/educator.
6. This document serves as both a question paper as well as an answer sheet for this task.



**Ladysmith** (renamed **uMnambithi** in 2024) is a town in the UThukela District of KwaZulu-Natal, South Africa. It lies 230 kilometers (140 mi) north-west of Durban and 365 kilometers (227 mi) southeast of Johannesburg. Ladysmith is located on the banks of the Klip River ("Stone River"), with the central business district and a large part of the residential areas located within the flood basin of the river. It is on the foothills of the Drakensberg mountains, about 26 km from the Van Reenen's Pass. The town has a subtropical highland climate (*Cwb*, according to the Köppen climate classification), with warm summers and cool, dry winters. It borders on a humid subtropical climate (*Cwa*). The average annual precipitation is 639 mm (25 in), with most rainfall occurring during summer.

[Source: [https://en.wikipedia.org/wiki/Ladysmith,\\_KwaZulu-Natal](https://en.wikipedia.org/wiki/Ladysmith,_KwaZulu-Natal)]

**QUESTION 1: MULTIPLE CHOICE**

The questions below are based on the 1:50 000 topographic map 2829DB Ladysmith and the Orthophoto map of a part of the mapped area. Various options are given as possible answers to the questions. Choose the correct answer and write **ONLY** the correct letter (A-D) next to each question.

**1.1 Ladysmith is in the ... Province.**

- A Free State
- B Mpumalanga
- C KwaZulu-Natal
- D Gauteng

**1.2 The contour interval on the Orthophoto map is ...meters.**

- A 10
- B 5
- C 15
- D 20

**1.3 The Topographic index of Ladysmith is...**

- A 2829DC 6
- B 2829DB 6
- C 2829DA 6
- D 2829DC 6



**1.4 The man-made feature found at J in Block C4 on the Topographic Map is ...**

- A excavation.
- B dry pan.
- C mine dump.
- D erosion.

**1.5 The type of scales shown on the Topographic map are...**

- (i) word
  - (ii) fraction
  - (iii) ratio
  - (iv) line
- A Only (i) is correct.
  - B Only (ii) and (iii) are correct.
  - C Only (iii) and (iv) are correct.
  - D Only (iii) and (i) are correct.

1.6 The 1:50 000 scale of the topographic map is ... than that of the Orthophoto map.

- A 5 times smaller
- B 5 times larger
- C 50 times smaller
- D 50 times larger

1.7 The distance from Ladysmith to Glencore is ...

- A 36 km
- B 98 km
- C 23 km
- D 98 m

1.8 The feature found at grid reference 28°31'13"S and 29°45'15"E is a/an...

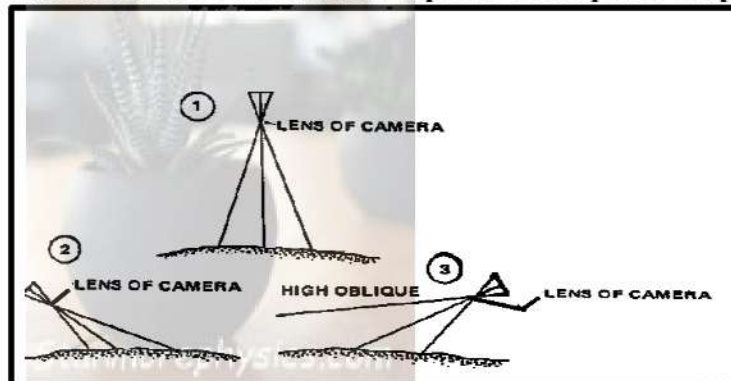
- A dam
- B valley
- C excavation
- D spot height

1.9 Direction of Maiden Castle on the topographic map in block D2 from Wagen hill in Block E1 is...

- A north west
- B south west
- C north east
- D south east

1.10 Refer to the Figure 1.10.

Position of the camera lens that was used to capture Orthophoto map 2829 DB 6 Ladysmith is...



- A 2
- B 3
- C 3 & 1
- D 1

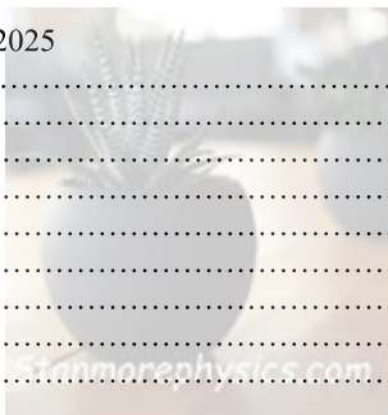
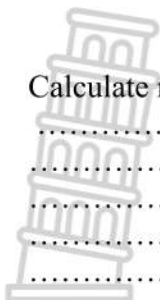
(10 x 1)(10)

QUESTION 2: MAP SKILLS AND CALCULATIONS

- 2.1 Identify two height indicators in Block B1 on the Topographic Map (2 x 1)(2)
- .....
- 2.2 What is the height of an index contour line labelled 7, in **Block D3** on the Orthophoto Map? (1 x 2)(2)
- .....
- 2.3 Work out the difference in height between spot height 1175 in **Block E1** and trigonometrical station 333 in **Block C4** on the Topographic Map. (1 x 2)(2)
- .....
- 2.4 Which area, **Block E1** or **Block C4** has a gentler slope on the Topographic Map? (1 x 2)(2)
- .....
- 2.5 Support your answer in question 2.4 above by providing evidence from the map. (2 x 2)(4)
- .....
- 2.6 Calculate a straight-line distance in kilometers from feature **H** in **Block B1** to feature **I** in **Block A3** on the Topographic Map. (2 x 1)(2)
- .....
- 2.7 Calculate the true bearing from Trigonometrical Beacon 333 in **Block C4** to Trigonometrical beacon 325 in **Block B2** on the Topographic Map. (2 x 1)(2)
- .....

2.8 Calculate magnetic declination for 2025

(5)



2.9 Draw a free hand cross section from the Maiden Castle to the point marked 7 on the Orthophoto.

(4)



[25]

**QUESTION 3: MAP INTERPRETATION**

3.1 **Refer to the Orthophoto Map.**

(2 x 2)(4)

The landform north of Kilpbank Road is a Spur.

List two characteristics as evidence from the Map to support the above statement.

.....

.....

.....

3.2 List FOUR sources of water in Ladysmith evident on the topographic map.

(4 x 1)(4)

.....

.....

.....

.....

3.3 Identify 2 modes of transport used block D1 on the Topographic Map.

(2 x 1)(2)

.....

.....

3.4 (a) Identify the land use labelled **G** in **Block D4**.

(1 x 1)(1)

.....

(b) Provide two reasons for the location of land use you mentioned in question 3.5 above.

(2 x 2)(4)

.....

.....

.....

3.5 What is the direction of 7 in the Orthophoto map in **Block D3** from the feature marked 11 in **Block C5**?

(1 x 1)(1)

.....

3.6 Why is Northern Western parts of **Block E5** unoccupied by buildings on the Topographic Map?

(2 x 1)(2)

.....

.....

- 3.7 (a) Choose the correct option from those given in brackets. Map scale of the **(Orthophoto / Topographic)** map is larger. (1 x 1)(1)
- .....
- (b) Why is it more advantageous to use a larger map scale? (1 x 2)(2)
- .....
- .....
- .....
- 3.8 (a) At what time of the day was the Orthophoto Map taken? (1 x 1)(1)
- .....
- .....
- .....
- (b) Provide evidence from the Orthophoto map. (2 x 1)(2)
- .....
- .....
- .....
- 3.9 Identify the environmental problem that occurs in **Block C5** on the Orthophoto Map. (1 x 1)(1)
- .....
- .....
- .....

[25]



### MARKING GUIDELINES

|                       |   |                  |
|-----------------------|---|------------------|
| <b>SUBJECT</b>        | : | GEOGRAPHY        |
| <b>CODE</b>           | : | GEOG             |
| <b>GRADE</b>          | : | 10               |
| <b>TASK</b>           | : | MAPWORK TASK     |
| <b>TOTAL TIME</b>     | : | 1 HOUR           |
| <b>TOTAL MARKS</b>    | : | 60               |
| <b>IMPLEMENTATION</b> | : | 25 FEBRUARY 2025 |

School Name *stanmorephysics.com*

Name of Learner

| QUESTION           | QUESTION 1 | QUESTION 2 | QUESTION 3 | TOTAL     |
|--------------------|------------|------------|------------|-----------|
| <b>Total</b>       | <b>10</b>  | <b>25</b>  | <b>25</b>  | <b>60</b> |
| Marker             |            |            |            |           |
| School Moderator   |            |            |            |           |
| District Moderator |            |            |            |           |

This Question paper consists of 8 pages, including the cover page.

## SPECIFIC INSTRUCTIONS AND INFORMATION FOR THIS TASK

Downloaded from Stanmorephysics.com

1. A 1:50 000 topographical map (2829 DB LADYSMITH) and a 1:10 000 Orthophoto map (2829 DB 6 LADYSMITH) of a part of the mapped area are provided.
2. All questions are based on the 1:50 000 topographical map (2829 DB LADYSMITH), 1:10 000 Ortho – rectified image (2829 DB 6 LADYSMITH)
3. The area demarcated in RED on the topographic map represents the area covered by the Orthophoto map.
4. You may use magnifying glass
5. Kindly hand in ALL the material given to you by the invigilator/educator.
6. This document serves both as a question paper as well as the answer sheet for this task.



**Ladysmith** (renamed **uMnambithi** in 2024) is a town in the UThukela District of KwaZulu-Natal, South Africa. It lies 230 kilometers (140 mi) north-west of Durban and 365 kilometers (227 mi) southeast of Johannesburg. Ladysmith is located on the banks of the Klip River ("Stone River"), with the central business district and a large part of the residential areas located within the flood basin of the river. It is on the foothills of the Drakensberg mountains, about 26 km from the Van Reenen's Pass. The town has a subtropical highland climate (*Cwb*, according to the Köppen climate classification), with warm summers and cool, dry winters. It borders on a humid subtropical climate (*Cwa*). The average annual precipitation is 639 mm (25 in), with most rainfall occurring during summer.

[Source: [https://en.wikipedia.org/wiki/Ladysmith,\\_KwaZulu-Natal](https://en.wikipedia.org/wiki/Ladysmith,_KwaZulu-Natal)]

**QUESTION 1: MULTIPLE CHOICE**

The questions below are based on the 1:50 000 topographic map 2829DB Ladysmith and the Orthophoto map of a part of the mapped area. Various options are given as possible answers to the questions. Choose the correct answer and write **ONLY** the correct letter (A-D) next to each question.

**1.1 Ladysmith is in the ... Province.**

- A Free State
- B Mpumalanga
- C KwaZulu-Natal
- D Gauteng

C

**1.2 The contour interval on the Orthophoto map is ...meters.**

- A 10
- B 5
- C 15
- D 20

B

**1.3 The Topographic index of Ladysmith is...**

- A 2829DC 6
- B 2829DB 6
- C 2829DA 6
- D 2829DC 6

B

**1.4 The man-made feature found at J in Block C4 on the Topographic Map is ...**

- A excavation.
- B dry pan.
- C mine dump.
- D Erosion.

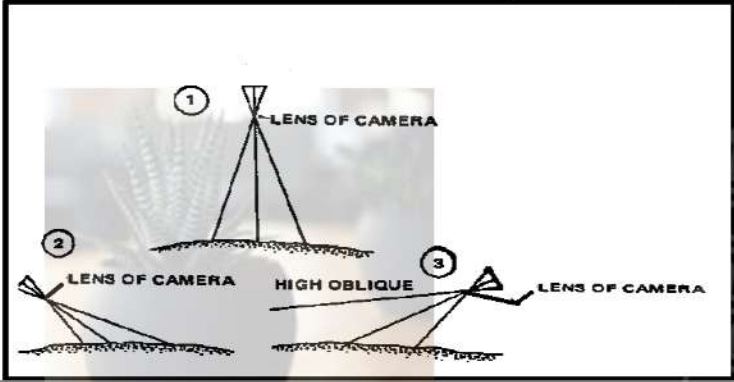
A

**1.5 The type of scales shown on the Topographic map are...**

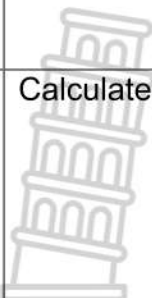
- (i) word
- (ii) fraction
- (iii) ratio
- (iv) line

C

- A (i) only is correct.
- B Only (ii) and (iii) are correct.
- C Only (iii) and (iv) are correct.
- D Only (iii) and (i) are correct.

|      |                                                                                                                                   |                  |              |
|------|-----------------------------------------------------------------------------------------------------------------------------------|------------------|--------------|
| 1.6  | The 1:50 000 scale of the topographic map is ... than that of the Orthophoto map.                                                 |                  |              |
|      | A                                                                                                                                 | 5 times smaller  | A            |
|      | B                                                                                                                                 | 5 times larger   |              |
|      | C                                                                                                                                 | 50 times smaller |              |
|      | D                                                                                                                                 | 50 times larger  |              |
| 1.7  | The distance from Ladysmith to Glencore is ...                                                                                    |                  |              |
|      | A                                                                                                                                 | 36 km            | A            |
|      | B                                                                                                                                 | 98 km            |              |
|      | C                                                                                                                                 | 23 km            |              |
|      | D                                                                                                                                 | 98 m             |              |
| 1.8  | The feature found at grid reference 28°31'13"S and 29°45'15"E is a/an...                                                          |                  |              |
|      | A                                                                                                                                 | dam              | D            |
|      | B                                                                                                                                 | valley           |              |
|      | C                                                                                                                                 | excavation       |              |
|      | D                                                                                                                                 | spot height      |              |
| 1.9  | Direction of Maiden Castle on the topographic map in block D2 from Wagen hill in Block E1 is...                                   |                  |              |
|      | A                                                                                                                                 | north west       | C            |
|      | B                                                                                                                                 | south west       |              |
|      | C                                                                                                                                 | north east       |              |
|      | D                                                                                                                                 | south east       |              |
| 1.10 | Refer to the Figure 1.10.<br>Position of the lens of the camera that was used to capture Orthophoto map 2829 DB 6 Ladysmith is... |                  |              |
|      |                                               |                  |              |
|      | A                                                                                                                                 | 2                | D            |
|      | B                                                                                                                                 | 3                |              |
|      | C                                                                                                                                 | 3 & 1            |              |
|      | D                                                                                                                                 | 1                |              |
|      |                                                                                                                                   |                  | (10 x 1)(10) |

| QUESTION 2: MAP SKILLS AND CALCULATIONS |                                                                                                                                                                                                                                                                                          |            |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 2.1                                     | Identify two height indicators in Block B1 on the Topographic Map.<br><u>Trigonometrical Beacon / Spot Height / Contour Lines [ANY TWO]</u>                                                                                                                                              | (2 x 1)(2) |
| 2.2                                     | What is the height of an index contour line labelled 7, in <b>Block D3</b> on the Othophoto map?<br><u>1020 Meters</u>                                                                                                                                                                   | (1 x 2)(2) |
| 2.3                                     | Work out the difference in height between spot height 1175 in <b>Block E1</b> and trigonometrical station 333 in <b>Block C4</b> on the Topographic Map.<br><u>1175m – 1038.4 = 136.2 Meters</u>                                                                                         | (1 x 2)(2) |
| 2.4                                     | Which area, <b>Block E1</b> or <b>Block C4</b> has a gentler slope on the Topographic Map?<br><u>C4</u>                                                                                                                                                                                  | (1 x 2)(2) |
| 2.5                                     | Support your answer in question 2.4 above by providing evidence from the map.<br><u>Contour Lines far away from to each other in block C4 whilst they are closer to each other in block E1</u>                                                                                           | (2 x 2)(4) |
| 2.6                                     | Calculate a straight-line distance in kilometers from feature <b>H</b> in <b>Block B1</b> to feature <b>I</b> in <b>Block A3</b> on the Topographic Map.<br><u>Map Distance X Map Scale</u><br>$\frac{100\ 000}{100\ 000} = 6.6\text{cm} \times \frac{50\ 000}{100\ 000}$ <u>=3.3 km</u> | (2 x 1)(2) |
| 2.7                                     | Calculate the true bearing from Trigonometrical Beacon 333 in <b>Block C4</b> to Trigonometrical beacon 325 in <b>Block B2</b> on the Topographic Map.<br><u>True Bearing = 180° +122°</u><br><u>= 302°</u>                                                                              | (2 x 1)(2) |
|                                         |                                                                                                                                                                                                                                                                                          |            |

|     |                                                                                                                                                                                                                                                                                                                                                     |     |      |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|
|     |                                                                                                                                                                                                                                                                                                                                                     |     |      |
| 2.8 | <div><div></div><div><p>Difference In Years = 2025 – 2001<br/>=24 Yrs</p><p>Mean Annual Change = 8' x 24yrs<br/>= 192'</p><p>Magnetic Declination for 2001 = 21° 03'</p><div><div>- 192'</div><div>=24° 15' WOTN</div></div><p>Stanmorephysics.com</p></div></div> | (5) |      |
| 2.9 | <div><p>Draw a free hand cross section from the Maiden Castle to the point marked 7 on the Orthophoto.</p><div><div>Maiden Castle</div><div></div></div></div>                                                                                                   | (4) |      |
|     |                                                                                                                                                                                                                                                                                                                                                     |     |      |
|     |                                                                                                                                                                                                                                                                                                                                                     |     | [25] |

**QUESTION 3: MAP INTERPRETATION**

|     |                                                                                                                                                                                                                                                                                                                                                                             |            |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 3.1 | Refer to the Orthophoto Map.<br><br>The landform north of Kilpbank Road is a Spur.<br>List two characteristics as evidence from the Map to support the above statement.<br><u>Sharp V – Shape of the contour lines</u><br><u>Highest record of height in the innermost V of the contour lines</u><br><u>Lowest record of height in the outermost V of the contour lines</u> | (2 x 2)(4) |
| 3.2 | List FOUR sources of water in Ladysmith evident on the topographic map.<br><br><u>Rivers, Lakes, Reservoirs, Canals, Furrows, Water Towers</u>                                                                                                                                                                                                                              | (4 x 1)(4) |
| 3.3 | Identify 2 modes of transport used block D1 on the Topographic Map.<br><br><u>Road Transport / Air Transport</u>                                                                                                                                                                                                                                                            | (2 x 1)(2) |
| 3.4 | (a) Identify the land use labelled <b>G</b> in <b>Block D4</b> .<br><u>Cultivated Lands</u>                                                                                                                                                                                                                                                                                 | (1 x 1)(1) |
|     | (b) Provide two reasons for the location of land use you mentioned in question 3.5 above.<br><br><u>Source Of Water / Flat Land</u>                                                                                                                                                                                                                                         | (2 x 2)(4) |
| 3.5 | What is the direction of 7 in the Orthophoto map in <b>Block D3</b> from the feature marked 11 in <b>Block C5</b> ?<br><br><u>South West</u>                                                                                                                                                                                                                                | (1 x 1)(1) |
| 3.6 | Why is Northern Western parts of <b>Block E5</b> unoccupied by buildings on the Topographic Map?<br><br><u>Unstable Land / Presence of Wetlands/ Presence Of Marshes</u>                                                                                                                                                                                                    | (1 x 2)(2) |

|     |     |                                                                                                                                                                          |             |
|-----|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 3.7 | (a) | Choose the correct option from those given in brackets. Map scale of the <b>(Orthophoto / Topographic)</b> map is larger.<br><u>Orthophoto</u>                           | (1 x 1)(1)  |
|     | (b) | Why is it more advantageous to use a larger map scale?<br><u>Map Features are larger / It is easy to recognize map features</u><br><u>Map features are more detailed</u> | (1 x 2)(2)  |
| 3.8 | (a) | At what time of the day was the Orthophoto Map taken?<br><u>Midday</u>                                                                                                   | (1 x 1)(1)  |
|     | (b) | Provide evidence from the Orthophoto map.<br><u>Shadows are shorter / Shadows are near the buildings</u>                                                                 | (1 x 2)(2)  |
| 3.9 |     | Identify the environmental problem that occurs in <b>Block C5</b> on the Orthophoto Map.<br><u>Erosion</u>                                                               | (1 x 1)(1)  |
|     |     |                                                                                                                                                                          | <b>[25]</b> |

