SOUTH AFRICAN COMPREHENSIVE ASSESSMENT INSTITUTE
SUID-AFRIKAANSE KOMPREHENSIEWE ASSESSERINGSINSTITUUT

Adult Basic Education and Training (ABET)
Site-Based Assessment (SBA)
Portfolio Of Evidence

Mathematical Literacy:	**NQF Level 1**
Total:	**40 marks**
Duration:	**6 hours**
Task 1:	**Assignment**
Number of Pages:	**15 pages**

Learner Information

Name : _____

Surname : _____

Identity/

Passport Number : _____

Employee Number : _____

Company : _____

Centre : _____

Date : _____

Declaration

I declare that this portfolio of evidence is my own work: _____

Signature

PROUDLY SOUTH AFRICAN

INSTRUCTIONS

1. This task consists of **TWO ACTIVITIES.**
2. Complete **ALL questions in each ACTIVITY**.
3. Learners should work on **ALL** activities individually.
4. You may use a calculator but show ALL your working.
5. Round off your answers to TWO decimal places (where necessary).
6. Write your answer in the simplest form.
7. Adhere to the numbering system used in this question paper.

ACTIVITY 1: POPULATION GROWTH BY AGE

In a population census, population numbers are determined for each province as well as all the districts within the province.

Use Table 1 below to answer Questions 1.1 - 1.5.

Table 1 shows the population of Eastern Cape and one of its districts per age group in 2011 and 2022. The last column shows the percentage growth from 2011 to 2022.

TABLE 1

Age group (in years)	Census 2011		Census 2022		Growth (in %)	
	Eastern Cape	Nelson Mandela Bay	Eastern Cape	Nelson Mandela Bay	E Cape	Nelson Mandela Bay
0 - 4	767 216	110 406	721 596	85 807	–5,95	–22,3
5 - 14	1 400 275	183 864	1 396 230	179 478	–0,3	**A**
15 - 34	2 227 779	410 270	2 339 173	386 277	**B**	– 5,8
35 - 59	1 528 558	341 120	**C**	378 153	23,4	10,9
60 +	638 224	**D**	886 965	160 760	39,0	51,0

Data source: Provinces at a Glance, Statistics South Africa

1.1 Answer the following questions and show **ALL** calculations.

a) Write the population of Eastern Cape for the 15-to-34-year age group for the year 2022 in words.

_____

_____

_____

(2)

b) Calculate the values of A to D using values in Table 1. Show working. Round off percentage growth to 1 decimal place. (8)

Use this formula:

(% change = $\frac{\textit{final value} - \textit{starting value}}{\textit{starting value}} \times \mathbf{100}$)

Calculate A	(2)
Calculate B	(2)
Calculate C	(2)
Calculate D	(2)

1.2 Which age group in Nelson Mandela Bay had the highest population growth from 2011 to 2022?

(1)

1.3 Write down the population of Eastern Cape in the 35-to-59-year age group for the year 2011 using scientific notation.

(2)

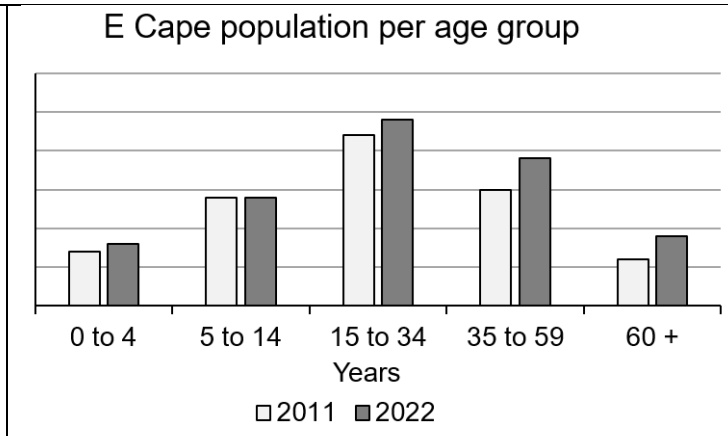
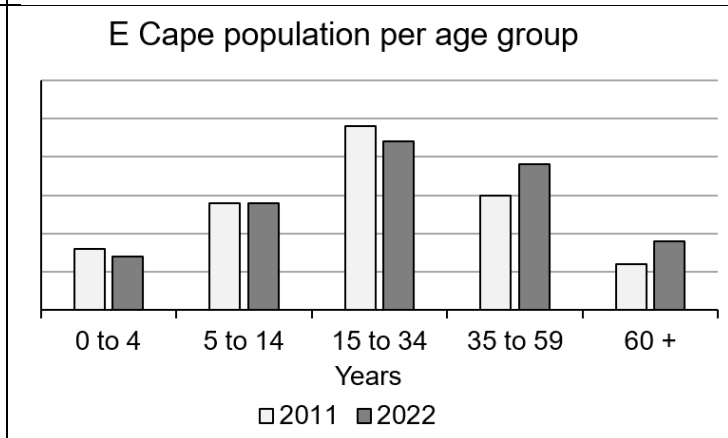
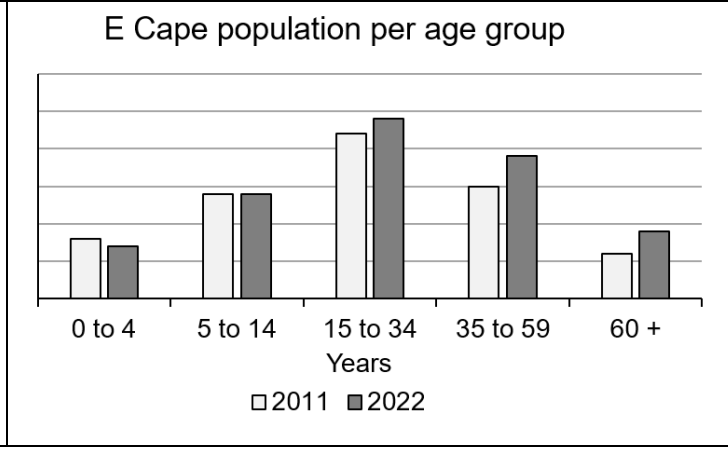
1.4 Write down the population of Eastern Cape in the 15-to-34-year age group for the year 2022 in terms of a base of 10.

(3)

1.5 For which age group was there an increase in the province as a whole, but a decrease in the given district?

(2)

1.6 Look at Graphs 1, 2 and 3. Which double bar graph is the correct shape for the given data?

Graph 1	
Graph 2	
Graph 3	

(2)

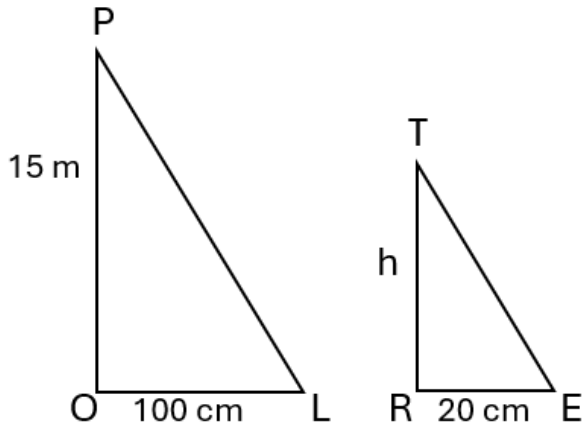
TOTAL MARKS FOR ACTIVITY 1 **(20)**

ACTIVITY 2: MEASUREMENT IN CONTEXT

2.1 A historical way of measuring heights is to compare the lengths of shadows, measured at the same time. We then use similar triangles.

2.1.1 Nosi wants to find the height of a tree. Its shadow is 20 cm long. A nearby pole is 15 m high, and it casts a shadow of 100 cm. Determine the height of the tree. See Diagram 1.

DIAGRAM 1

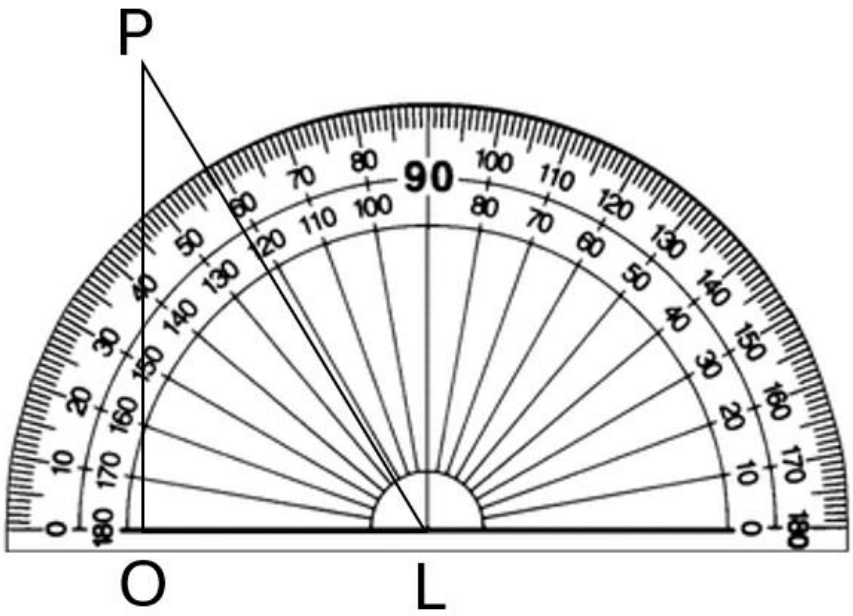


(2)

2.1.2 In triangle POL, PO is perpendicular to OL.

(a) Refer to Diagram 2. Use the protractor given to measure the size of the angle $O\hat{L}P$.

DIAGRAM 2



(1)

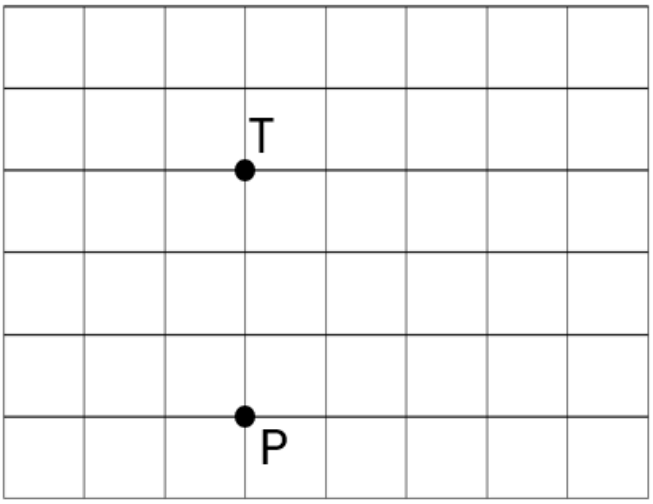
(b) Calculate the size of the angle $O\hat{P}L$.

(1)

2.1.3 Nosi draws a map to indicate the position of the pole (P), the tree (T) a sunflower (S), and a rosebush (R). See Diagram 3 for the partially completed map. The grid is made up of squares. On the map, draw and label the accurate positions of the rosebush and the sunflower, given the following:

The tree is 12 m north of the pole and the rosebush is 20 m east of the pole. The sunflower is west of the tree and northwest of the pole.

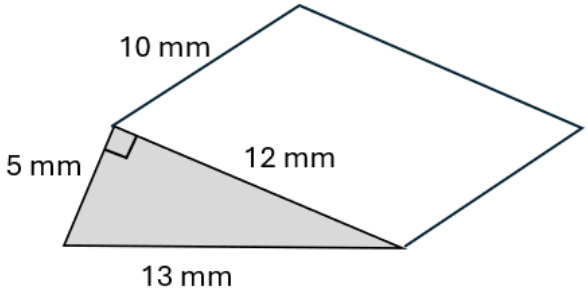
DIAGRAM 3



(2)

2.2 Diagram 4 shows a triangular prism.

DIAGRAM 4

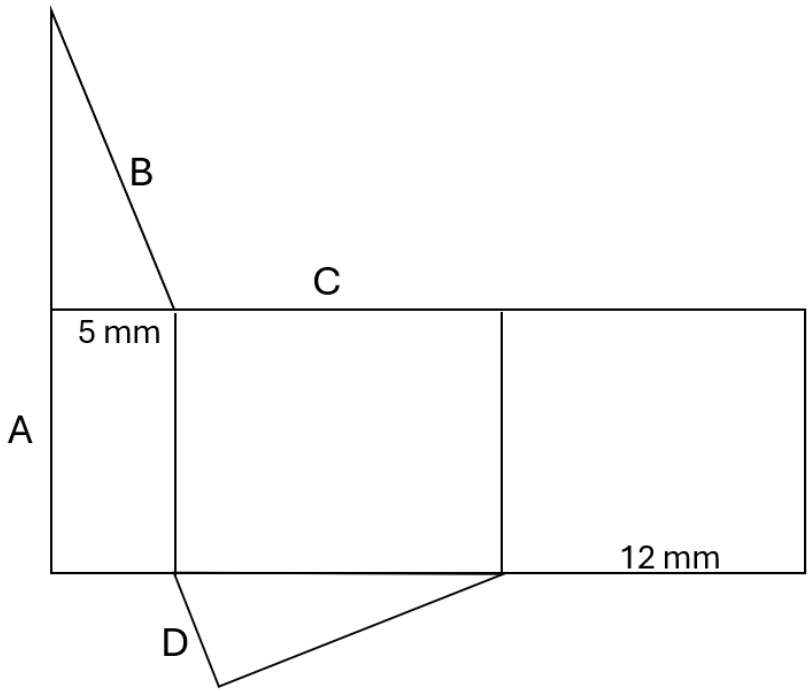


2.2.1 Calculate the volume of the prism.

(2)

2.2.2 Look at Diagram 5 which shows the net of the prism. It is not drawn to scale. Determine the lengths A, B, C and D on the net.

DIAGRAM 5



(2)

2.3 Nosi makes a stem-and-leaf diagram to show the number of sunflowers and roses sold each day at a flower market. See Diagram 6.

DIAGRAM 6

Sunflowers Units	Tens	Roses Units
7 7 6 4 2	4	3 5 8 8
8 4 1	3	0 7 9 9 9
9 7 6 6 4 1	2	5 6 6
7 3 2 0	1	1 1 2 7 7 9
8 6 5 5 2 1 0	0	3 6 6 8 8 9

2.3.1 Determine the median number of roses sold in a day.

(1)

2.3.2 On how many days were there less than 12 sunflowers sold?

(2)

2.3.3 Some new sales figures must be added to the diagram. The numbers are listed below. Place them in Diagram 7.
Sunflowers: 56, 58, 51, 52, 56

Roses: 50, 59, 58, 53, 56

DIAGRAM 7

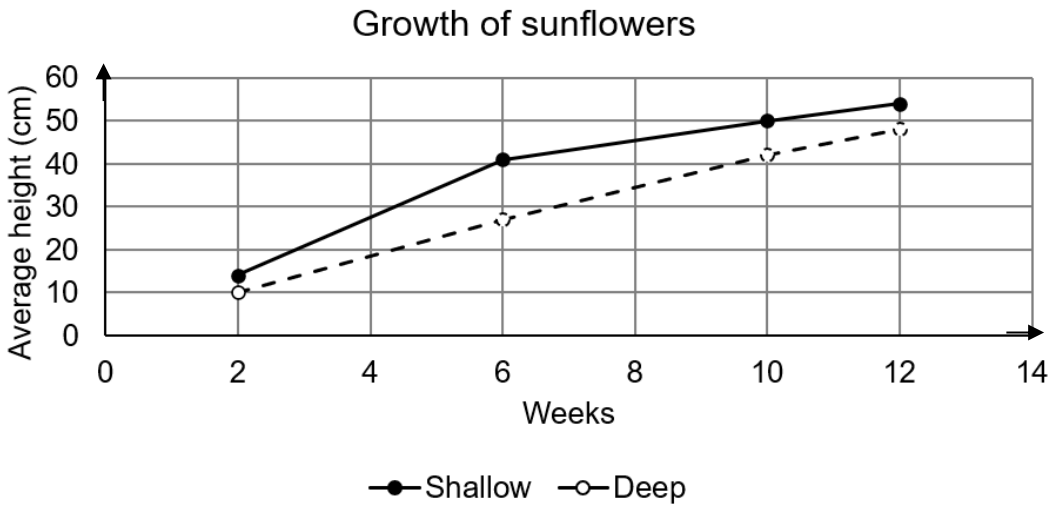
Sunflowers Units	Tens	Roses Units
7 7 6 4 2	4	3 5 8 8
8 4 1	3	0 7 9 9 9
9 7 6 6 4 1	2	5 6 6
7 3 2 0	1	1 1 2 7 7 8
8 6 5 5 2 1 0	0	3 6 6 8 8 9

(2)

2.4 Nosi does an experiment with sunflower growth. She plants one batch of sunflower seeds at a depth of 2 cm (Shallow) and another at a depth of 4 cm (Deep). She records their average growth over a period of 12 weeks in line diagrams. See Graph 4.

(Based on https://www.researchgate.net/figure/Plant-height-of-sunflower-as-influenced-by-seed-size-and-burial-depth - modified.)

GRAPH 4



2.4.1 How long did it take for the batch that was planted deeper to reach a height of 10 cm?

_____

(1)

2.4.2 Which batch grew faster?

_____

(1)

2.4.3 At what stage was the height difference the greatest? Give the answer in weeks.

_____

(1)

2.4.4 Summarise the results of the experiment by indicating the overall trend.

_____

_____

_____

(2)

TOTAL MARKS FOR ACTIVITY 2 **(20)**

TOTAL MARKS FOR TASK 1 **[40]**

TOTAL FOR TASK 1: 40 MARKS

	Activity 1 – 2	Maximum Mark	Learner's Mark	Moderated Mark
Task 1	Activity 1	20		
	Activity 2	20		
	Total: Task 1	40		