

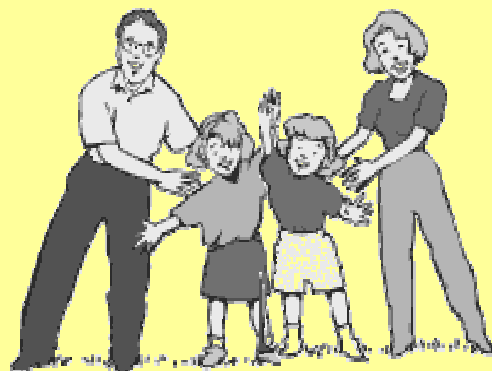


NQF Level: 1 **US No: 7449**

Assessment Guide

Primary Agriculture

The use of Mathematics in Social, Political and Economic Relations



Assessor:

Workplace / Company:

Commodity: Date:

Before we start...

This assessment guide contains all necessary activities and instructions that will enable the assessor and learner to gather evidence of the learner's competence as required by the unit standard. This guide was designed to be used by a trained and accredited assessor whom is registered to assess this specific unit standard as per the requirements of the AgriSETA ETQA.

Prior to the delivery of the program the facilitator and assessor must familiarise themselves with content of this guide, as well as the content of the relevant Learner Workbook.

The assessor, facilitator and learner must plan the assessment process together, in order to offer the learner the maximum support, and the opportunity to reflect competence.

The policies and procedures that are required during the application of this assessment are available on the website of the AgriSETA and should be strictly adhered to. The assessor must familiarise him/herself with this document before proceeding.

This guide provides step-by-step instructions for the assessment process of:

Title: Critically analyse how mathematics is used in social, political and economic relations
US No: 7449 NQF Level: 1 Credits: 2

This unit standard is one of the building blocks in the qualification listed below. Please mark the qualification you are currently assessing, because that will be determined by the context of application:

Title	ID Number	NQF Level	Credits	Mark
National Certificate in Animal Production	48970	1	120	<input type="checkbox"/>
National Certificate in Mixed Farming Systems	48971	1	120	<input type="checkbox"/>
National Certificate in Plant Production	48972	1	120	<input type="checkbox"/>

Please mark the learning program you are enrolled in:

Are you enrolled in a:	Y	N
Learnership?	<input type="checkbox"/>	<input type="checkbox"/>
Skills Program?	<input type="checkbox"/>	<input type="checkbox"/>
Short Course?	<input type="checkbox"/>	<input type="checkbox"/>

Note to Assessor:

If you are assessing this module as part of a full qualification or learnership, please ensure that you have familiarized yourself with the content of the qualification.

Instructions to learner:

Answer the questions

Learner Workbook: Page 4

Facilitator Guide: Page 12

Write down a formula to calculate each of the following:

1. Johanna earns R 12 per hour. She works 9 hours per day. She gets paid weekly. What is her weekly gross pay?

Model Answer(s):

$R12 \times 9 \text{ hours} \times 5 \text{ days} = \text{RR}540 \text{ per week.}$

2. Themba earns a gross salary of R 650 per week. He has weekly deductions for UIF at 1% of his weekly wage, and 1% SDL. What is his net wage per week?

Model Answer(s):

$R650 - (1/100 \times 650) - (1/100 \times 650) = \text{R}637 \text{ per week.}$

3. Xoli is the union representative. He has negotiated a wage increase of 6% for the workers on the farm. He has to explain to two workers how much they would now earn. The first worker is Sabatha who earns R 650.00 per week and the second worker is Patience who earns R 660.00 per week.

Model Answer(s):

Sabatha:
 $R650 + (650 \times 6/100) = \text{R}689.00$

Patience:
 $R660 + (660 \times 6/100) = \text{R}699.60.$

4. If Xoli had negotiated a R60 across the board increase – how would it change the explanation of the wages for Sabatha and Patience above?

Model Answer(s):

Sabatha:
 $R650 + R60 = \text{R}710$

Patience:
 $R660 + R60 = \text{R}720.$

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SO 1

Instructions to learner:

Complete the worksheet

Learner Workbook: Page 6

Facilitator Guide: Page 12

The average (mean) is calculated by adding up the figures given and then dividing by the total number of figures:

Average = total amount + total number of figures

Example:

1. Find the average of 2, 4, 6.

The total amount is $2 + 4 + 6 = 12$

There are 3 numbers, so the average is $12 \div 3 = 4$

1. Calculate the average of these figures:

Model Answer(s):

1. The total amount is $5 + 12 + 7 = 24$.
There are 3 numbers, so the average is $24 \div 3 = 8$.
2. The total amount is $6 + 9 + 15 = 30$.
There are 3 numbers, so the average is $30 \div 3 = 10$.
3. The total amount is $21 + 32 + 28 = 81$.
There are 3 numbers, so the average is $81 \div 3 = 27$.
4. The total amount is $44 + 37 + 48 + 35 = 164$.
There are 4 numbers, so the average is $164 \div 4 = 41$.
5. The total amount is $92 + 76 + 88 + 80 = 336$.
There are 4 numbers, so the average is $336 \div 4 = 84$.
6. The total amount is $103 + 98 + 87 + 95 + 102 = 485$.
There are 5 numbers, so the average is $485 \div 5 = 97$.
7. The total amount is $1\ 003 + 989 + 654 + 1\ 226 = 3\ 872$.
There are 4 numbers, so the average is $3\ 872 \div 4 = 968$.

Instructions to learner:

Work in pairs

Learner Workbook: Page 7

Facilitator Guide: Page 14

1. Work out the perimeter of this triangle In pairs look up the meaning of the following terms from a dictionary, then write next to it what you understand by that term and how you might use it in your life (with a practical example).

Term	Dictionary meaning	What I understand / an example from my life
Budgeting	As per dictionary used	As per learners initiative
Interest rates	As per dictionary used	As per learners initiative
Mortgage	As per dictionary used	As per learners initiative
Service charges	As per dictionary used	As per learners initiative
Fuel prices	As per dictionary used	As per learners initiative
Pensions	As per dictionary used	As per learners initiative
Inflation	As per dictionary used	As per learners initiative
Value of the rand	As per dictionary used	As per learners initiative
Exchange rates.	As per dictionary used	As per learners initiative

Individually complete the following worksheet:

2. Write down an example of your weekly budget below:

Model Answer(s):

Learner's own initiative.

3. Now explain in your own words how you used maths to draw this up.

Model Answer(s):

E.g. Weekly earnings determined; weekly requirements stipulated & deducted from weekly earnings.

4. Research and find out what the interest % and amount would be if you bought a fridge from your local furniture store. Write down the sums you would do to calculate your monthly payment, and also the total amount that you will pay in order to complete payments for this fridge.

Model Answer(s):

As per store % & agreements.

5. Go to the bank and ask them that you would like to have an information leaflet about mortgages. Paste the leaflet below. Now summarise in your own words what a mortgage is, and how you think it works.

Model Answer(s):

Down payment on money borrowed from a bank to purchase property. Worked out over a fixed term (usually many years) at a fixed percentage.

6. Go to the bank and ask them that you would like to have an information leaflet about service charges. Paste the leaflet below. Now summarise in your own words what a service charges are, and how you think it works.

Model Answer(s):

The fees the bank charges you to keep your savings or enable services such as Internet banking/ EFT transactions etc.

Instructions to learner:

Work in groups

Learner Workbook: Page 10

Facilitator Guide: Page 16

- As a group - look at the statistics below, then discuss amongst yourselves and indicate how the statistics of your group compares with that state:

	National Statistic	Average of people in our group	Expressed as percentages
Population:	44,187,637 <i>Note:</i> estimates for this country explicitly take into account the effects of excess mortality due to AIDS; this can result in lower life expectancy, higher infant mortality and death rates, lower population and growth rates, and changes in the distribution of population by age and sex than would otherwise be expected (July 2006 est.)		
Age structure:	<i>0-14 years:</i> 29.7% (male 6,603,220/female 6,525,810) <i>15-64 years:</i> 65% (male 13,955,950/female 14,766,843) <i>65 years and over:</i> 5.3% (male 905,870/female 1,429,944) (2006 est.)		
Median age:	<i>Total:</i> 24.1 years <i>Male:</i> 23.3 years <i>Female:</i> 25 years (2006 est.)		
Population growth rate:	-0.4% (2006 est.)		
Birth rate:	18.2 births/1,000 population (2006 est.)		
Death rate:	22 deaths/1,000 population (2006 est.)		
Net migration rate:	-0.16 migrant(s)/1,000 population <i>Note:</i> there is an increasing flow of Zimbabweans into South Africa and Botswana in search of better economic opportunities (2006 est.)		

	National Statistic	Average of people in our group	Expressed as percentages
Sex ratio:	<i>At birth:</i> 1.02 male(s)/female <i>Under 15 years:</i> 1.01 male(s)/female <i>15-64 years:</i> 0.95 male(s)/female <i>65 years and over:</i> 0.63 male(s)/female <i>Total population:</i> 0.95 male(s)/female (2006 est.)		
Infant mortality rate:	<i>Total:</i> 60.66 deaths/1,000 live births <i>Male:</i> 64.31 deaths/1,000 live births <i>Female:</i> 56.92 deaths/1,000 live births (2006 est.)		
Life expectancy at birth:	<i>Total population:</i> 42.73 years <i>Male:</i> 43.25 years <i>Female:</i> 42.19 years (2006 est.)		
Total fertility rate:	2.2 children born/woman (2006 est.)		
HIV/AIDS - adult prevalence rate:	21.5% (2003 est.)		
HIV/AIDS - people living with HIV/AIDS:	5.3 million (2003 est.)		
HIV/AIDS - deaths:	370,000 (2003 est.)		
Ethnic groups:	Black African 79%, white 9.6%, coloured 8.9%, Indian/Asian 2.5% (2001 census)		
Religions:	Zion Christian 11.1%, Pentecostal/Charismatic 8.2%, Catholic 7.1%, Methodist 6.8%, Dutch Reformed 6.7%, Anglican 3.8%, other Christian 36%, Islam 1.5%, other 2.3%, unspecified 1.4%, none 15.1% (2001 census)		
Languages:	IsiZulu 23.8%, IsiXhosa 17.6%, Afrikaans 13.3%, Sepedi 9.4%, English 8.2%, Setswana 8.2%, Sesotho 7.9%, Xitsonga 4.4%, other 7.2% (2001 census)		
Literacy:	<i>Definition:</i> age 15 and over can read and write <i>Total population:</i> 86.4% <i>Male:</i> 87% <i>Female:</i> 85.7% (2003 est.)		

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SO 4

Instructions to learner:

Work in pairs

Learner Workbook: Page 13

Facilitator Guide: Page 18

1. In pairs look up the meaning of the following terms from a dictionary, then write next to it what you understand by that term and how you might use it in your life (with a practical example):

Term	Dictionary meaning	What I understand / an example from my life
Income distribution	As per dictionary used	As per learners initiative
Census	As per dictionary used	As per learners initiative
Elections	As per dictionary used	As per learners initiative
Voting	As per dictionary used	As per learners initiative
Opinion polls	As per dictionary used	As per learners initiative

My Notes ...

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Assessment Feedback Form

Comments / Remarks	
Feedback to learner on assessment:	
Feedback from learner to assessor:	
Learner's Signature:	Date:
Assessor's Signature:	Date:

Summative Test and Attitude & Attribute Evaluation

Before the knowledge test is undertaken, the learner must be reminded of what is expected from him / her in terms of summative and reflexive competence. Read and explain to the learner, the **Preparation for Your Final Assessment** section in the learner workbook. Learners and assessor should sign off this section to acknowledge that this step was completed.

Please set up a knowledge test from the questions given as a guideline to learners and supply each learner with a test sheet.

Supply each report with the following heading:

Unit Standard:	7449	NQF Level:	1
Learner Name:			

Questions	Model Answers
1. Describe ways in which mathematics is used in the workplace.	
2. Describe ways in which mathematical relationships and language can be used to represent particular perspectives.?	
3. Different forms of comparisons such as differences versus ratio.	
4. Manipulation of graphs through choice of graph, scale of axes and nature of axes.	
5. The use of different averages: mean, median, mode.	
6. Describe the impact of economic changes on an individual.	
7. Describe ways in which mathematics can be used as a filter for social differentiation.	
8. Describe the significance attached to number by different societies.	
9. Describe the use of mathematics in the media.	

10. Income distribution; census; elections; voting; opinion polls.

Assessment Feedback Form

Comments / Remarks	
Feedback to learner on assessment and / or overall recommendations and action plan for competence:	
Feedback from learner to assessor:	
<p>Assessment Judgement You have been found:</p> <p><input type="radio"/> Competent</p> <p><input type="radio"/> Not yet competent in this unit standard</p>	<p>Actions to follow:</p> <p><input type="radio"/> Assessor report to ETQA</p> <p><input type="radio"/> Learner results and attendance certification issued</p>
Learner's Signature:	Date:
Assessor's Signature:	Date:
Moderator's Signature:	Date:

ASSESSMENT GUIDE

Critically analyse how mathematics is used in social, political and economic relations

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Primary Agriculture

NQF Level 1

Unit Standard No: 7449

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