



All qualifications and unit standards registered on the National Qualifications Framework are public property. Thus the only payment that can be made for them is for service and reproduction. It is illegal to sell this material for profit. If the material is reproduced or quoted, the South African Qualifications Authority (SAQA) should be acknowledged as the source.

**SOUTH AFRICAN QUALIFICATIONS AUTHORITY
REGISTERED UNIT STANDARD:**

Apply trigonometry equations to calculate pitch, height and span

SAQA US ID	UNIT STANDARD TITLE			
263758	Apply trigonometry equations to calculate pitch, height and span			
ORIGINATOR		REGISTERING PROVIDER		
SGB Forestry				
QUALITY ASSURING BODY				
-				
FIELD			SUBFIELD	
Field 01 - Agriculture and Nature Conservation			Forestry and Wood Technology	
ABET BAND	UNIT STANDARD TYPE	OLD NQF LEVEL	NEW NQF LEVEL	CREDITS
Undefined	Regular	Level 4	NQF Level 04	4
REGISTRATION STATUS		REGISTRATION START DATE	REGISTRATION END DATE	SAQA DECISION NUMBER
Registered		2009-05-13	2012-05-13	SAQA 0181/09
LAST DATE FOR ENROLMENT		LAST DATE FOR ACHIEVEMENT		
2013-05-13		2016-05-13		

In all of the tables in this document, both the old and the new NQF Levels are shown. In the text (purpose statements, qualification rules, etc), any reference to NQF Levels are to the old levels unless specifically stated otherwise.

This unit standard does not replace any other unit standard and is not replaced by any other unit standard.

PURPOSE OF THE UNIT STANDARD

The use of trigonometric applications in the roofing industry is key. People credited with this unit standard are able to:

- Name, discuss and apply the trigonometric equations.
- Apply the relevant trigonometric equation to calculate the height of a truss.
- Apply the relevant trigonometric equation to calculate the span and pitch of a truss.

LEARNING ASSUMED TO BE IN PLACE AND RECOGNITION OF PRIOR LEARNING

Communication and Mathematical Literacy at NQF Level 3.

Recognition of Prior Learning:

- Persons who are able to demonstrate workplace experience comparable or equivalent to the competence requirements of the unit standard will be given credit, in line with assessment processes.

UNIT STANDARD RANGE

N/A

Specific Outcomes and Assessment Criteria:

SPECIFIC OUTCOME 1

List and discuss the trigonometry equations.

ASSESSMENT CRITERIA

ASSESSMENT CRITERION 1

Trigonometric equations are identified in terms of their purpose and application.

ASSESSMENT CRITERION 2

The need for trigonometric equations in roofing calculations is identified for calculating pitch, height and span.

SPECIFIC OUTCOME 2

Apply the relevant trigonometric equation to calculate the height of a truss.

ASSESSMENT CRITERIA

ASSESSMENT CRITERION 1

The underside height of a truss is calculated in accordance with acceptable mathematical protocols.

ASSESSMENT CRITERION 2

The top chord depth at specific angles is calculated in accordance with acceptable mathematical protocols.

ASSESSMENT CRITERION 3

The overall height is calculated in accordance with acceptable mathematical protocols.

SPECIFIC OUTCOME 3

Apply the relevant trigonometric equation to calculate the span and pitch of a truss.

ASSESSMENT CRITERIA

ASSESSMENT CRITERION 1

The relevant wall angle is identified from given information.

ASSESSMENT CRITERION 2

The span of the girder is calculated in accordance with acceptable mathematical protocols.

ASSESSMENT CRITERION 3

The underside height of a standard truss is calculated in accordance with acceptable mathematical

protocols.

ASSESSMENT CRITERION 4

The pitch of girder is determined from all available information.

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS

- Anyone assessing a candidate against this unit standard must be registered as an assessor with the relevant ETQA.
- Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider through the relevant ETQA.
- Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

Knowledge considered critical to the successful achievement of this unit is covered in the specific outcomes and assessment criteria. This includes:

- Identifying and applying relevant formulae for calculations.
- Knowing how to check calculations for accuracy.
- Calculating angles.
- Calculating height.
- Calculating length.

UNIT STANDARD DEVELOPMENTAL OUTCOME

N/A

UNIT STANDARD LINKAGES

N/A

Critical Cross-field Outcomes (CCFO):

UNIT STANDARD CCFO IDENTIFYING

Identify correct trigonometric equation and apply to problem solving.

Range: Pitch, span and height.

UNIT STANDARD CCFO WORKING

Work effectively with others and in teams.

UNIT STANDARD CCFO ORGANISING

Organise and manage oneself and one's activities responsibly and effectively by gathering all relevant information to make the necessary calculations.

UNIT STANDARD CCFO COLLECTING

Collect, analyse, organise and critically evaluate information in respect of pitch, height and span.

UNIT STANDARD CCFO COMMUNICATING

Communicate effectively using visual, mathematical and/or language skills.

UNIT STANDARD CCFO DEMONSTRATING

Understand the implications of incorrect calculations for roof solutions.

QUALIFICATIONS UTILISING THIS UNIT STANDARD:

	ID	QUALIFICATION TITLE	OLD LEVEL	NEW LEVEL	STATUS	END DATE
Core	66370	Further Education and Training Certificate: Roof Truss Technology	Level 4	NQF Level 04	Registered	2012-05-13

PROVIDERS CURRENTLY ACCREDITED TO OFFER THIS UNIT STANDARD:

This information shows the current accreditations (i.e. those not past their accreditation end dates), and is the most complete record available to SAQA as of today. Some Quality Assuring Bodies have a lag in their recording systems for provider accreditation, in turn leading to a lag in notifying SAQA of all the providers that they have accredited to offer qualifications and unit standards, as well as any extensions to accreditation end dates. The relevant Quality Assuring Body should be notified if a record appears to be missing from here.

NONE

All qualifications and unit standards registered on the National Qualifications Framework are public property. Thus the only payment that can be made for them is for service and reproduction. It is illegal to sell this material for profit. If the material is reproduced or quoted, the South African Qualifications Authority (SAQA) should be acknowledged as the source.