

This site is exclusive to your college/school  
 Your Logo goes here

Your own front page images go here

Username Password >  
 your username or password?

Navigation Bar MaTH(s)Lab OpenDemos GetPricing



Online Math(s)Lab - exclusive to your college/school

Automation for TEACHERS, Better Grades for LEARNERS, Keeps PARENTS in the loop

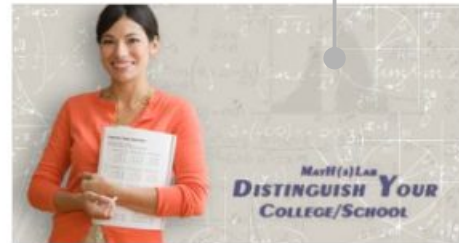
Online Maths Lab - Unique for each College/School

**Blended Learning**  
 mATH(S) LAB®

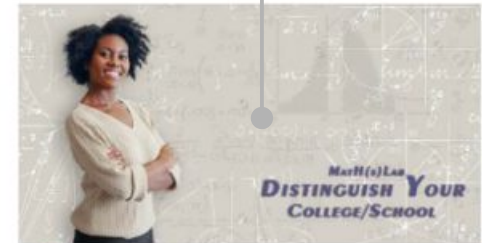
COMBINING THE BEST TEACHING METHODS



✓ **Better Grades, Individual Attention:** This Online Maths Lab works alongside Face2Face Classroom Teaching. It helps teachers reach a larger group of learners with more individual attention, producing better grades. ✓ **Automated,** takes pressure off the teacher and keeps parents in the loop. ✓ **Anytime anywhere.** Multiple Media Responsive layout, Desktop, Laptop, Tablet, Mobile.



✓ **Maths Grade 10-12:** CAPS and IEB aligned. 2500 Short format Math exercises. 500 Exam and Test preparation assignment exercises. Automated assignments. >300 Hours of Video Tutorials



✓ **Maths Level N1-N6 :** NATED. 2200 Short format Math exercises. 400 Exam and Test preparation assignment exercises. Automated assignments. >400 Hours of Video Tutorials

## Math(s)Lab Features - Detailed Demo - (Brochure 2 of 4)

Page

Unique Usernames & Passwords for Learners, Teachers, Parents

1

Grade Category Menu and its Syllabus Sections - Example

2

6 Components of Each Syllabus Section

3

1 Short-Question Format – Exercises with all-inclusive feedback to learners and teachers

4-8

2 Short-Question Format – Automated Previous Grade Recap with all-inclusive feedback

9-10

3 Long-Question Format - Automated Exam Paper Based Assignments

11-21

4 Video Tutorials – In the Cloud with Learner Participation Tracking

22-25

5 Skype, Live Chat, Course Feedback, Class Participation

26-27

6 Teacher's Toolbox - Only Visible to Teachers

28-32

Follow the Brochure online – Desktop View

33

Follow the Brochure online – Mobile View

34

Parent  
Observe Only

Learner  
Participates

Lead and  
Monitor

Teacher

Online Math(s)Lab – exclusive to your college/school

Automation for TEACHERS, Better Grades for LEARNERS, Keeps PARENTS in the loop

✔ Online Maths Lab - Unique for each College/School

**Blended Learning**  
 mATH(s)LAB®

COMBINING THE BEST TEACHING METHODS



✔ Better Grades, Individual Attention: This Online Maths Lab works alongside Face2Face Classroom teaching, giving teachers a larger group of learners with more individual attention, producing better grades. ✔ Automated assignments, which keep parents in the loop. ✔ Anytime anywhere. Multiple Media Resources, including Text, Diagrams, Photos, Videos, etc.

**USERNAMES AND PASSWORDS**



✔ Maths Grade 10-12: CAPS and IEB aligned. 2500 Short format Math exercises. 500 Exam and Test preparation assignment exercises. Automated assignments. >300 Hours of Video Tutorials



✔ Maths Level N1-N6 : NATED. 2200 Short format Math exercises. 400 Exam and Test preparation assignment exercises. Automated assignments. >400 Hours of Video Tutorials

## Blended Learning

mATH(S)LAB®



- ✓ **Better Grades, Individual Attention:** This Online Maths Lab works alongside Face2Face Classroom Teaching. It helps teachers reach a larger group of learners with more individual attention, producing better grades. ✓
- Automated,** takes pressure off the teacher and keeps parents in the loop. ✓
- Anytime anywhere.** Multiple Media Responsive layout, Desktop, Laptop, Tablet, Mobile.



- ✓ **Maths N3:** Factors and Fractions, Exponents, Surds, Logarithms, Equations, Word Problems and Manipulations, Geometry of Co-ordinates, Algebraic Graphs, Differential Calculus, Trigonometry

Example of a Grade Category Menu with its Syllabus Sections

➔ N3 - Factors and Fractions 1	
➔ N3 - Exponents, Surds and Logarithms 2	
➔ N3 - Equations, Word Problems and Manipulations 3	
➔ N3 - Geometry of Co-ordinates 4	
➔ N3 - Algebraic Graphs 5	
➔ N3 - Differential Calculus 6	
➔ N3 - Trigonometry 7	



Maths N3  
Learner Guide

Maths N3  
Exam Papers

Individual or Group Skype

Sessions



Automatically linked by  
Classroom: Teacher to Student,  
Student to Student, Teacher to  
Parent

Face2Face Classroom

Participation Register



# Blended Learning

MaTH(a)'matiks



- ✓ **Better Grades, Individual Attention:** This Online Maths Lab works alongside Face2Face Classroom Teaching. It helps teachers reach a larger group of learners with more individual attention, producing better grades.
- ✓ **Automated,** takes pressure off the teacher and keeps parents in the loop.
- ✓ **Anytime anywhere.** Multiple Media Responsive layout, Desktop, Laptop, Tablet, Mobile.



✓ N3 - Trigonometry:

Follow this demo online.  
<http://www.fusionlms.net/course/view.php?id=90>

▶ Each syllabus section opens up into 6 components

▶ Open all ▼ Close all

Instructions: Clicking on the section name will show / hide the section.

- 1 ▶ Short-Question Format - Exercises with all-inclusive feedback to learners and teachers
- 2 ▶ Short-Question Format - Automated Previous Grade Recap with all-inclusive feedback
- 3 ▶ Long-Question Format - Automated Exam Paper Based Assignments
- 4 ▶ Video Tutorials - In The Cloud with Learner Participation Tracking
- 5 ▶ Skype, Live Chat, Course Feedback, Class Participation
- 6 ▶ Teacher's Toolbox - Only Visible to Teachers



Each syllabus section has 6 components

Face2Face Classroom

Individual or Group

Automatically linked by Student, Teacher to Pa

3D - Digital Books

Lorem ipsum dolor sit amet consectetur.

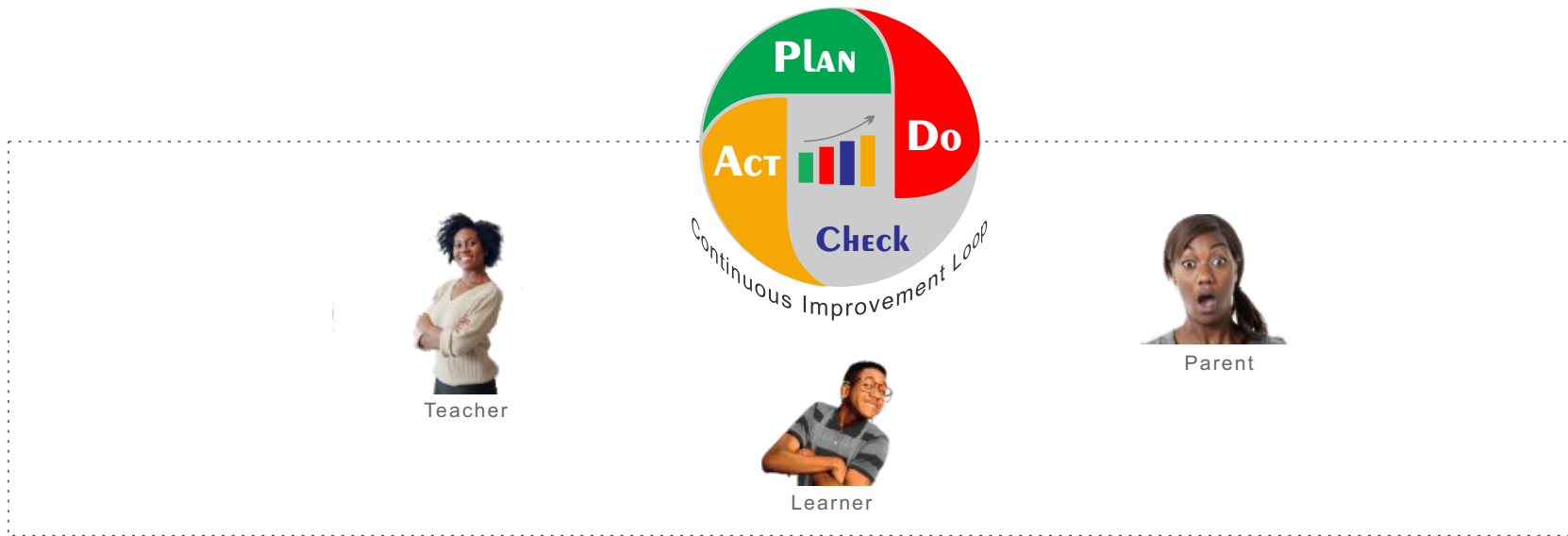
Navigation

- Home
- ▼ Current course
  - ▼ N3 - Trigonometry
    - Participants
    - ▶ Courses

Search forums

Latest announcements

(No news has been posted)



1 Short-Question Format – Exercises with all-inclusive feedback to learners and teachers



6 Components of each syllabus section



**Better Grades, Individual Attention:** This Online Maths Lab works alongside Face2Face Classroom Teaching. It helps teachers reach a larger group of learners with more individual attention, producing better grades.
  **Automated,** takes pressure off the teacher and keeps parents in the loop.
  **Anytime anywhere.** Multiple Media Responsive layout, Desktop, Laptop, Tablet, Mobile.



**N3 - Trigonometry:** Exact Values, Exact Values in The First Quadrant, Exact Values in Other Quadrants, Trigonometric Equations, Identities, Solving Triangles, Right-Angled Triangles, The Sine Rule, The Cosine Rule, The Area of a Triangle, Periodic Functions, Superimposing Graphs, Rotating Vectors, Superimposing Graphs.

▶ Open all    ▼ Close all

Instructions: Clicking on the section name will show / hide the section.

1 ▼ Short-Question Format – Exercises with all-inclusive feedback to learners and teachers

### TEACHER CUSTOMISABLE

Short-Question Format Exercises, 24 Hours / 7 Days a Week

**Short-Question Format Exercises.** Proficiency in math require daily practice with immediate feedback to both teachers and learners. This system provides exercises online 24/7 with automatic feedback to a large group of learners, individually.

Teachers can compile short-format exercises from the question bank and customise multiple lessons for learners. They may schedule a series of exercises to show or hide on a timeline, or student grade basis. Or just adhoc. (Sample exercise below)

N3 - Trigonometry. Sample Exercise



**Teacher's Question Bank:** A reservoir of Short-Format Exercises to select from or add your own. Teachers access the question bank through the quiz editing menu.



Individual or Group Skype Sessions



Automatically linked by Classroom:  
Teacher to Student, Student to Student,  
Teacher to Parent

3D - Digital Books



Lorem ipsum  
dolor sit amet,  
consetetur.

Lorem ipsum  
dolor sit amet,  
consetetur.

Navigation

- Home
- ▼ Current course
  - ▼ N3 - Trigonometry
    - Participants
- ▶ Courses





Information

Flag question

Edit question

A random sample of short-format Learner Exercises added from the Teacher's Question Bank

Question 1

Not complete Marked out of 1.00

Flag question

Edit question

Which one of the following statements is false?

Select one:

- a.  $1 + \tan^2 x = \frac{1}{\sin^2 x}$
- b.  $\cos^2 x = 1 - \sin^2 x$
- c.  $\frac{1}{\tan^2 x} + 1 = \frac{1}{\sin^2 x}$
- d.  $\tan x = \frac{\sin x}{\cos x}$

Check

Question 2

Not complete Marked out of 1.00

Flag question

Edit question

If  $f(x) = \frac{1}{2} \sin \theta$ , the maximum value of  $f$  and the corresponding value of  $\theta$  at which this maximum occurs, are as follows:

Select one:

- a.  $\frac{1}{2}$  ;  $90^\circ$

Quiz navigation

1	1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16	17
18	19	20	21	22	23	24	25	26
27	28	29	30					

Finish attempt ...

Start a new preview



Teacher

ie. This teacher selected only 30 exercises from the larger question bank



Navigation

Dashboard

- Site home
- Current course
  - N3 - Trigonometry
    - Participants
    - Badges
    - Short-Question Format – Exercises with all-inclusi...
    - N3 - Trigonometry. Sample Exercise
- My courses



Administration

- Quiz administration
  - Edit settings
  - Group overrides
  - User overrides
  - Edit quiz
  - Preview
    - Results
    - Locally assigned roles
    - Permissions
    - Check permissions
    - Filters
    - Logs
    - Backup
    - Restore
    - Question bank
- Course administration

1







Information Flag question Edit question

A random sample of short-format Learner Exercises added from the Teacher's Question Bank

Question 1 Correct Mark 1.00 out of 1.00 Flag question Edit question

Which one of the following statements is false?

Select one:

- a.  $1 + \tan^2 x = \frac{1}{\sin^2 x}$  ✓
- b.  $\cos^2 x = 1 - \sin^2 x$
- c.  $\frac{1}{\tan^2 x} + 1 = \frac{1}{\sin^2 x}$
- d.  $\tan x = \frac{\sin x}{\cos x}$

Your answer is correct, since:

$$\text{LHS} = 1 + \tan^2 x = 1 + \frac{\sin^2 x}{\cos^2 x} = \frac{\cos^2 x + \sin^2 x}{\cos^2 x} = \frac{1}{\cos^2 x} \neq \text{RHS}$$

The correct answer is:  $1 + \tan^2 x = \frac{1}{\sin^2 x}$

Question 2 Not complete Marked out of 1.00 Flag question Edit question

If  $f(x) = \frac{1}{2} \sin \theta$ , the maximum value of  $f$  and the corresponding value of  $\theta$  at which this maximum occurs, are as follows:

Quiz navigation

1	1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16	17
18	19	20	21	22	23	24	25	26
27	28	29	30					

Finish attempt ...

Start a new preview

Navigation

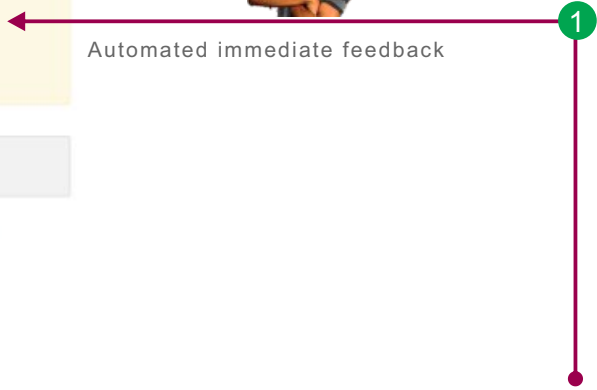
- Dashboard
  - Site home
  - Current course
    - N3 - Trigonometry
      - Participants
      - Badges
      - Short-Question Format - Exercises with all-inclusi...
        - N3 - Trigonometry. Sample Exercise
    - My courses

Administration

- Quiz administration
  - Edit settings
  - Group overrides
  - User overrides
- Edit quiz
- Preview
  - Results
    - Locally assigned roles
    - Permissions
    - Check permissions
    - Filters
    - Logs
    - Backup
    - Restore
  - Question bank
- Course administration
- Switch role to...



Learner



Started on	Monday, 22 October 2018, 1:40 PM
State	Finished
Completed on	Monday, 22 October 2018, 1:45 PM
Time taken	5 mins 26 secs
Marks	23.00/30.00
Grade	7.67 out of 10.00 (77%)

Quiz navigation

i	1	2	3	4	5	6	7	8
	✓	✓	✓	✓	✓	✗	✗	✗
9	10	11	12	13	14	15	16	17
✗	✓	✓	✓	✓	✓	✓	✓	✗
18	19	20	21	22	23	24	25	26
✓	✓	✓	✓	✓	✓	✓	✓	✓
27	28	29	30					
✓	✓	✗	✗					

Finish review

Start a new preview

Navigation

- Dashboard
  - Site home
  - Current course
    - N3 - Trigonometry
      - Participants
      - Badges
      - Short-Question Format – Exercises with all-inclusi...
        - N3 - Trigonometry. Sample Exercise
    - My courses

Administration

- Quiz administration
  - Edit settings
  - Group overrides
  - User overrides
  - Edit quiz
  - Preview
    - Results
      - Locally assigned roles
      - Permissions
        - Check permissions
        - Filters
        - Logs
        - Backup
        - Restore
      - Question bank
    - Course administration
      - Switch role to...
      - Site administration
      - Log in as

Search



Information [Flag question](#) [Edit question](#)

A random sample of short-format Learner Exercises added from the Teacher's Question Bank

Question 1 Correct Mark 1.00 out of 1.00 [Flag question](#) [Edit question](#)

Which one of the following statements is false?

Select one:

- a.  $1 + \tan^2 x = \frac{1}{\sin^2 x}$  ✓
- b.  $\cos^2 x = 1 - \sin^2 x$
- c.  $\frac{1}{\tan^2 x} + 1 = \frac{1}{\sin^2 x}$
- d.  $\tan x = \frac{\sin x}{\cos x}$

Your answer is correct, since:

$$\text{LHS} = 1 + \tan^2 x = 1 + \frac{\sin^2 x}{\cos^2 x} = \frac{\cos^2 x + \sin^2 x}{\cos^2 x} = \frac{1}{\cos^2 x} \neq \text{RHS}$$

The correct answer is:  $1 + \tan^2 x = \frac{1}{\sin^2 x}$

Question 2 Correct Mark 1.00 out of 1.00 [Flag question](#) [Edit question](#)

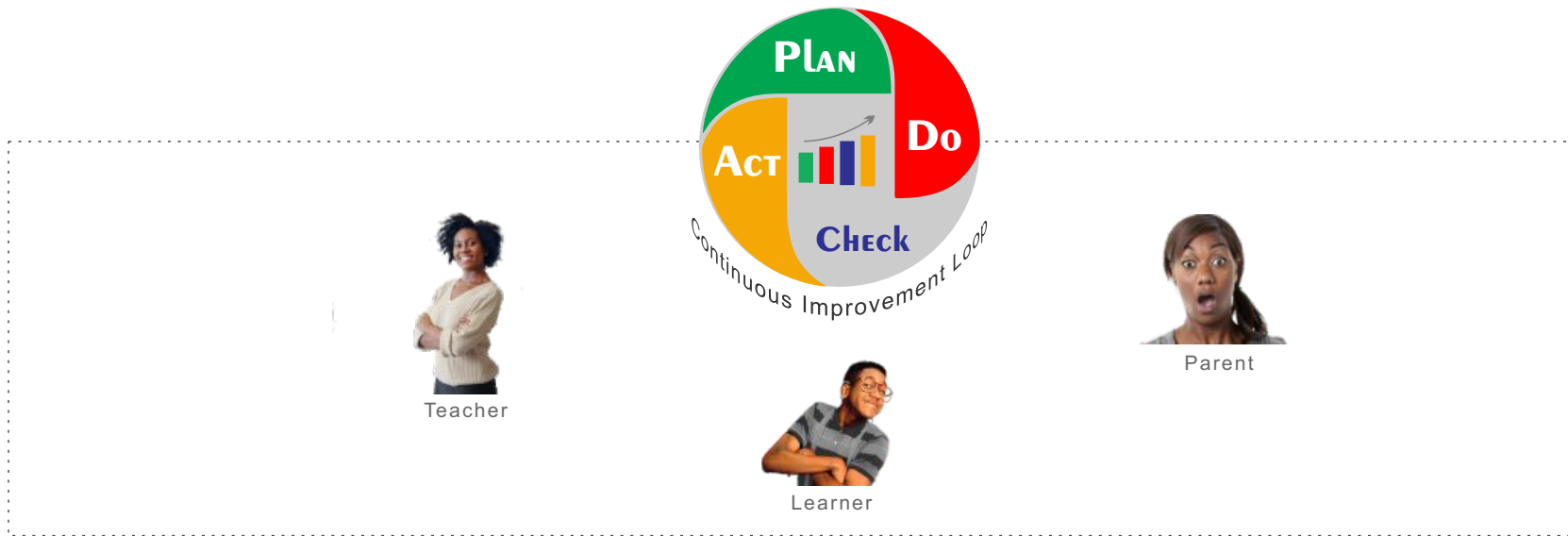
If  $f(x) = \frac{1}{2} \sin \theta$ , the maximum value of  $f$  and the corresponding value of  $\theta$  at which this maximum occurs, are as follows:



Both teacher and learner know immediately if exercises have been mastered. They know where the problem areas are, on a daily basis.

1 Automated Immediate feedback & grading






2 Short-Question Format – Automated Previous Grade Recap with all-inclusive feedback



6 Components of each syllabus section

1 ▶ Short-Question Format - Exercises with all-inclusive feedback to learners and teachers

2 ▼ Short-Question Format - Automated Previous Grade Recap with all-inclusive feedback



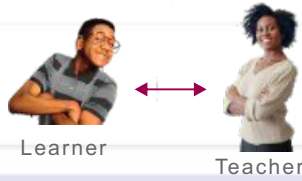
**Previous Grade Question Bank:** Substantial reservoir of previous grade exercises to select from.

### PREVIOUS GRADE RECAP

Short-Question Format

**Previous Grade Recap.** Math is cumulative, it is a subject that requires knowledge from previous sessions. Previous grade recap quickly brings learners up to speed making absolutely sure learners grasp a foundational concept before they move on to something more complicated in the next grade. This system reprepares learners online and gives individual feedback to teachers without cutting in on classroom time.

 N2-Trigonometry



The teacher knows whether learners have mastered the basics before starting a next level lesson.

3 ▶ Long-Question Format - Automated Exam Paper Based Assignments

4 ▶ Video Tutorials - In The Cloud with Learner Participation Tracking

5 ▶ Skype, Live Chat, Course Feedback, Class Participation

6 ▶ Teacher's Toolbox - Only Visible to Teachers

#### 3D - Digital Books



Lorem ipsum dolor sit amet, consetetur.

Lorem ipsum dolor sit amet, consetetur.

#### Navigation

Home

- ▼ Current course
  - ▼ N3 - Trigonometry
    - Participants
  - ▶ Courses

#### Search forums

Go

Advanced search ?

#### Latest announcements

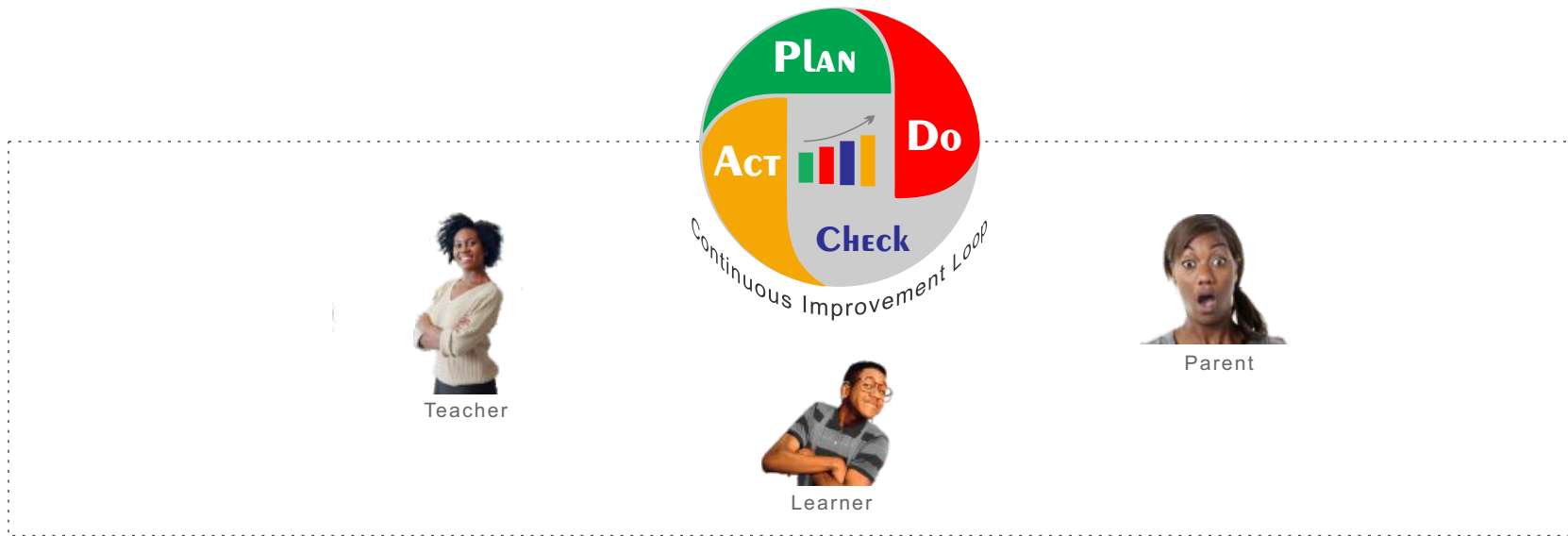
(No news has been posted yet)

#### Upcoming events

There are no upcoming events

Go to calendar...





3 Long-Question Format - Automated Exam Paper Based Assignments



6 Components of each syllabus section


2 ▶ Short-Question Format – Automated Previous Grade Recap with all-inclusive feedback

3 ▼ Long-Question Format - Automated Exam Paper Based Assignments

TEACHER CUSTOMISABLE

Automated Long-Question Format Assignment Exercises

Teacher



**Exam Paper Based Teacher's Assignment Bank:** Substantial reservoir of exam paper based long-question assignment format exercises to select from. Or add your own. (Assignment bank is stored in the Teachers Toolbox at the bottom of this page).

**Automated Long-Question Format Assignment Exercises.** This prepares a large number of learners individually for tests and exams. Continuously throughout the academic term, not just at the end; math is cumulative.


The setting and marking of assignments is automated and online which takes pressure off the teacher. A series of assignments can be scheduled to show or hide on a timeline, or student grading basis. Or, as and when required.

- 1) Template - Group Assignment Format
- 2) Template - Individual Assignment Format
- 3) Multiple-Peer-to-Peer Reviewed Assignment Template

Assignment Templates (ABOVE)    Assignment Format – Group or individual    Peer-to-Peer Review Assignments


Above, three Assignment Templates are offered for teachers to copy. They can easily create their own formats once they're more familiar with the system. The degree of automatic submission, grading and feedback of assignments can be set by the teacher.

4 ▶ Video Tutorials – In The Cloud with Learner Participation Tracking




Lorem ipsum dolor sit amet, consetetur.

Lorem ipsum dolor sit amet, consetetur.


 Navigation ☰ ☱

- Home
- ▼ Current course
  - ▼ N3 - Trigonometry
    - Participants
  - ▶ Courses


 Search forums ☰ ☱

Go

Advanced search ?


 Latest announcements ☰ ☱

(No news has been posted yet)

 Upcoming events ☰ ☱

There are no upcoming events

Go to calendar...

 Recent activity 👤

Activity since Saturday, 20 October 2018, 12:46



3

### Long-Question Format - Automated Exam Paper Based Assignments

#### TEACHER CUSTOMISABLE

Automated Long-Question Format Assignment Exercises

**Automated Long-Question Format Assignment Exercises.** This prepares a large number of learners individually for tests and exams. Continuously throughout the academic term, not just at the end; math is cumulative.

The setting and marking of assignments is automated and online which takes pressure off the teacher. A series of assignments can be scheduled to show or hide on a timeline, or student grading basis. Or, as and when required.



**Exam Paper Based Teacher's Assignment Bank:** Substantial reservoir of exam paper based long-question assignment format exercises to select from. Or add your own. (Assignment bank is stored in the Teachers Toolbox at the bottom of this page).



Teacher

1) Template - Group Assignment Format

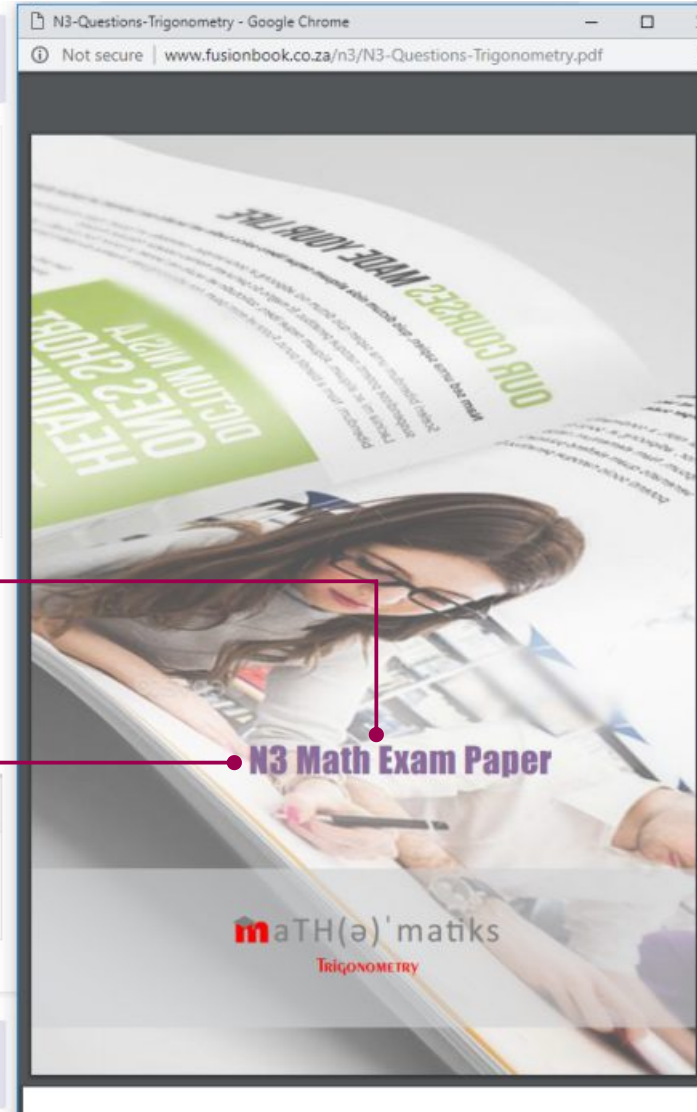
2) Template - Individual Assignment Format

3) Multiple-Peer-to-Peer Reviewed Assignment Template

3

Assignment Templates (ABOVE)    Assignment Format – Group or individual    Peer-to-Peer Review Assignments

Above, three Assignment Templates are offered for teachers to copy. They can easily create their own formats once they're more familiar with the system. The degree of automatic submission, grading and feedback of assignments can be set by the teacher.



N3 Math Exam Paper

4

### Video Tutorials - In The Cloud with Learner Participation Tracking

3

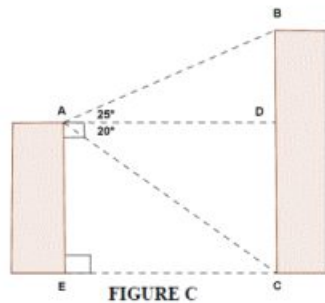


6 Components of each syllabus section

### 3 Template - Individual Assignment Format

Trigonometry Assignment 1 due 12/2/2021. Please submit your typed or handwritten answers in pdf format.

3. Consider FIGURE C below. An observer, standing at a point A is watching the top of a vertical tower BC. The angle of elevation of the top of the tower, BC, is  $25^\circ$  and the angle of depression of the foot of the tower is  $20^\circ$ . If the height of the tower BC is known to be 30 m, determine the following:
  - 3.1 The distance between the observer at A and the point B.
  - 3.2 The distance between the two towers.



No need to type in assignment. Teacher drag and drop's from the assignment bank

N3-Questions-Trigonometry - Google Chrome  
 Not secure | www.fusionbook.co.za/n3/N3-Questions-Trigonometry.pdf

**N3-Trigonometry-Questions**

1. Prove the following trigonometric identity:  

$$\sin^2 A + \tan^2 A + \cos^2 A = \sec^2 A$$
2. Calculate the value(s) of  $\theta$  which will satisfy the equation if  $0^\circ \leq \theta \leq 2$   
 $\sin \theta = 1 - \cos^2 \theta$
3. Consider FIGURE C below. An observer, standing at a point A is watching a vertical tower BC. The angle of elevation of the top of the tower, and the angle of depression of the foot of the tower is  $20^\circ$ . If the height of the tower BC is known to be 30 m, determine the following:
  - 3.1 The distance between the observer at A and the point B.
  - 3.2 The distance between the two towers.

#### Grading summary

Participants	17
Submitted	0
Needs grading	0

3

Teacher selects and from the exam paper based assignment bank



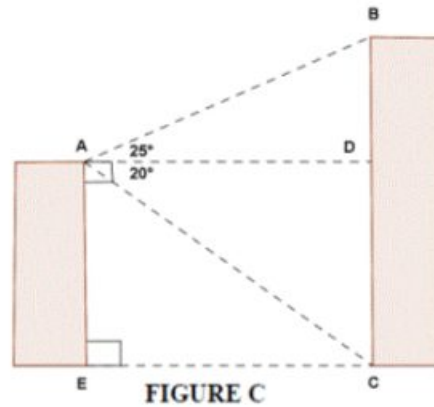




Trigonometry Assignment 1 due 12/2/2021. Please submit your typed or handwritten answers in pdf format.

Learner reads his assignment here

3. Consider FIGURE C below. An observer, standing at a point A is watching the top of a vertical tower BC. The angle of elevation of the top of the tower, BC, is  $25^\circ$  and the angle of depression of the foot of the tower is  $20^\circ$ . If the height of the tower BC is known to be 30 m, determine the following:
  - 3.1 The distance between the observer at A and the point B.
  - 3.2 The distance between the two towers.



Submission status

Submission status	No attempt
Grading status	Not graded
Last modified	-
Submission comments	Comments (0)

Learner adds his submission here

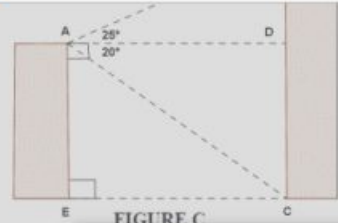
Handwritten or typed

Add submission

Make changes to your submission



6 Components of each syllabus section



File picker

Recent files

Upload a file

URL downloader

Private files

Wikimedia

Attachment  My Trig Assignment.pdf

Save as

Author

Choose license

Learner uploads completed assignment

File submissions

Files

Online text

3



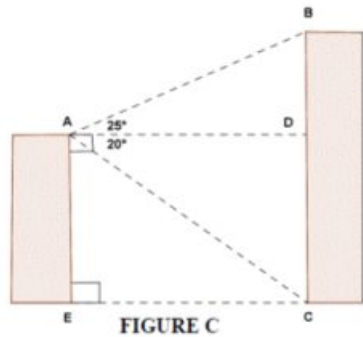
6 Components of each syllabus section

## 2) Template - Individual Assignment Format



Trigonometry Assignment 1 due 12/2/2021. Please submit your typed or handwritten answers in pdf format.

3. Consider FIGURE C below. An observer, standing at a point A is watching the top of a vertical tower BC. The angle of elevation of the top of the tower, BC, is  $25^\circ$  and the angle of depression of the foot of the tower is  $20^\circ$ . If the height of the tower BC is known to be 30 m, determine the following:
- 3.1 The distance between the observer at A and the point B.
  - 3.2 The distance between the two towers.



### Grading summary

Participants	8
Submitted	7
Needs grading	7



Teacher

[View all submissions](#)

[Grade](#)

3



6 Components of each syllabus section

**Navigation**

- Dashboard
  - Site home
  - Current course
    - N3 - Trigonometry
      - Participants
      - Badges
      - Long-Question Format - Automated Exam Paper Based ...
        - 2) Template - Individual Assignment Format**
    - My courses

**Administration**

- Assignment administration
  - Edit settings
  - Locally assigned roles
  - Permissions
    - Check permissions
    - Filters
    - Logs
    - Backup
    - Restore
    - Advanced grading
    - View gradebook
    - View all submissions
    - Download all submissions
- Course administration
  - Switch role to...
  - Site administration
  - Log in as

[Search](#)

Since model answers will be copied & pasted in later, the teacher does not have to grade the assignment in detail. An overall grade should be enough.



3

Teacher

Select	User picture	First name / Surname	Email address	Status	Grade	Edit	Last modified (submission)	File submissions	Online text	Last modified (grade)	Feedback files	Final grade
<input type="checkbox"/>		Woody Allen	Email@email.com	Submitted for grading	Grade	Edit	Thursday, 25 October 2018, 3:04 PM	My Trig AssignmentHandwritten...	Q	-		-
<input type="checkbox"/>		Clint Eastwood	Clint@eastwood.com	Submitted for grading	Grade	Edit	Thursday, 25 October 2018, 3:13 PM	My Trig AssignmentHandwritten...	Q	-		-
<input type="checkbox"/>		Father Christmas	father@xmas.com	Submitted for grading	Grade	Edit	Thursday, 25 October 2018, 3:11 PM	My Trig Assignment.pdf	Q	-		-
<input type="checkbox"/>		Andy Capp	andy@capp.com	Submitted for grading	Grade	Edit	Thursday, 25 October 2018, 3:08 PM	My Trig Assignment.pdf	Q	-		-
<input type="checkbox"/>		Flo Capp	flo@capp.com	Submitted for grading	Grade	Edit	Thursday, 25 October 2018, 3:10 PM	My Trig Assignment.pdf	Q	-		-
<input type="checkbox"/>		Fred Flintstone	fred@flint.com	Submitted for grading	Grade	Edit	Thursday, 25 October 2018, 3:14 PM	My Trig Assignment.pdf	Q	-		-
<input type="checkbox"/>		Wilma Flintstone	wilma@flint.com	Submitted for grading	Grade	Edit	Thursday, 25 October 2018, 3:15 PM	My Trig Assignment.pdf	Q	-		-
<input type="checkbox"/>		Demo Learner	learn3@demo.com	No submission	Grade	Edit	-	-	-	-		-

Reset table preferences

Navigation ☰

Dashboard

- Site home
- ▼ Current course
  - ▼ N3 - Trigonometry
    - ▶ Participants
    - ▶ Badges
    - ▼ Long-Question Format - Automated Exam Paper Based ...
      - 2) Template - Individual Assignment Format
  - ▶ My courses

Administration ☰

▼ Assignment administration

- Edit settings
- Locally assigned roles
- Permissions
- Check permissions
- Filters
- Logs
- Backup
- Restore
- Advanced grading
- View gradebook
- View all submissions
- Download all submissions
- ▶ Course administration
- ▶ Switch role to...
- ▶ Site administration
- ▶ Log in as

Search

With selected... Lock submissions Go

3



6 Components of each syllabus section



Since model answers will be copied & pasted in later, the teacher does not have to grade the assignment in detail. An overall grade should be enough.



### My Trigonometry Assignment - Handwritten

$$\begin{aligned}
 1 \quad LHS &= \sin^2 A + \tan^2 A + \cos^2 A \\
 &= \cancel{\sin} (\sin^2 A + \cos^2 A) + \tan^2 A \\
 &= 1 + \tan^2 A \\
 &= \sec^2 A = RHS. \quad \checkmark
 \end{aligned}$$

$$\begin{aligned}
 2 \quad \sin \theta &= 1 - \cos^2 \theta \\
 \therefore \sin \theta &= \sin^2 \theta \\
 \therefore \sin^2 \theta - \sin \theta &= 0 \\
 \therefore \sin \theta (\sin \theta - 1) &= 0 \\
 \therefore \sin \theta = 0 \text{ or } \sin \theta = 1 \\
 \therefore \theta = 0 \text{ or } \theta = 90^\circ \\
 &\text{ or } \theta = 180^\circ \quad \checkmark
 \end{aligned}$$

In  $\triangle ABC$

$$\frac{AB}{\sin 70} = \frac{30}{\sin 40}$$

Teacher can add notes and remarks directly onto learner's assignment

### Submission

Submitted for grading

Graded

Student can edit this submission



My Trig AssignmentHandwritten...

Comments (0)

### Grade

Grade out of 100 ?

Current grade in gradebook

80.00

### Feedback comments



You have all correct, but you have skipped one question

Notify students

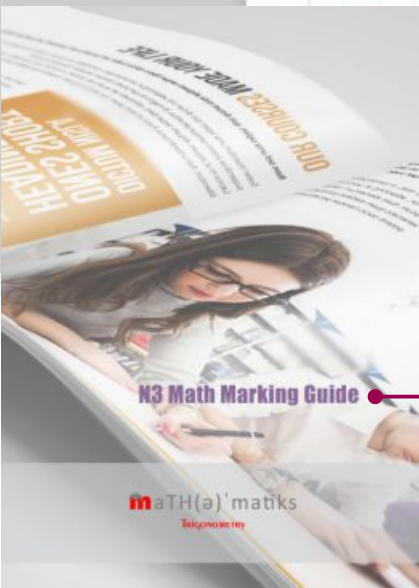
Save changes

Reset

3



Teacher



N3 Math Marking Guide

maTH(a)'matiks  
Trigonometry



## 2) Template - Individual Assignment

Grading action

Choose...

Select	User picture	First name / Surname	Email address
<input type="checkbox"/>		Woody Allen	Email@email.com
<input type="checkbox"/>		Clint Eastwood	Clint@eastwood.com
<input type="checkbox"/>		Father Christmas	father@xmas.com
<input type="checkbox"/>		Andy Capp	andy@capp.com
<input type="checkbox"/>		Flo Capp	flo@capp.com
<input type="checkbox"/>		Fred Flintstone	fred@flint.com
<input type="checkbox"/>		Wilma Flintstone	wilma@flint.com
<input type="checkbox"/>		Demo Learner	learn3@demo.com

Annotate PDF x

Page 1 of 1 🔍

### My Trigonometry Assignment

- $$LHS = \sin^2 A + \tan^2 A + \cos^2 A$$

$$= (\sin^2 A + \cos^2 A) + \tan^2 A$$

$$= 1 + \tan^2 A$$

$$= \sec^2 A = RHS$$
- $$\sin \theta = 1 - \cos^2 \theta$$

$$\therefore \sin \theta = \sin^2 \theta$$

$$\therefore \sin^2 \theta - \sin \theta = 0$$

$$\therefore \sin \theta (\sin \theta - 1) = 0$$

$$\therefore \sin \theta = 0 \text{ or } \sin \theta = 1$$

$$\therefore \theta = 0^\circ \text{ or } \theta = 90^\circ$$

$$\text{or } \theta = 180^\circ$$
- 3.1. In  $\triangle ABC$ :

$$\frac{AB}{\sin 70^\circ} = \frac{30}{\sin 45^\circ}$$

$$\therefore AB = \frac{30 \sin 70^\circ}{\sin 45^\circ}$$

$$= 39,868m$$


3.2. In  $\triangle ABD$ :

$$\frac{AD}{AB} = \cos 25^\circ$$

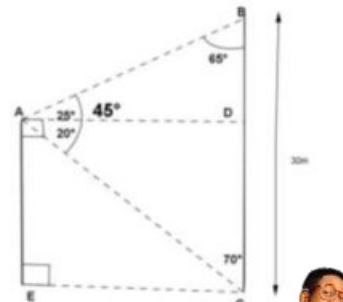
$$\therefore AD = AB \cos 25^\circ$$

$$= 39,868 \times \cos 25^\circ$$

$$= 36,133m$$



Learner



Reset table preferences

Annotate PDF Feedback files Final grade

Woody Allen_71_0.pdf	model answers.pdf	80.00 / 100.00
<a href="#">View annotated PDF...</a>		

Clint Eastwood_79_0.pdf	model answers.pdf	75.00 / 100.00
<a href="#">View annotated PDF...</a>		

Father Christmas_69_0.pdf	model answers.pdf	100.00 / 100.00
<a href="#">View annotated PDF...</a>		

model answers.pdf		
-------------------	--	--



Teacher



Parent

Learners and or parents are automatically notified once assignments have been graded



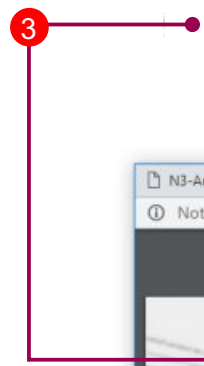
6 Components of each syllabus section



Teacher

Model Answers are copied & pasted by the Teacher from the exam paper based assignment bank, hosted in the Teacher's Toolbox.

So teachers do not have to grade assignments in detail.



### Template - Individual Assignment Format

Grading action  
Choose...

Select	User picture	First name / Surname	Email address	Status	Grade	Edit	Last modified (submission)	File submissions
<input type="checkbox"/>		Woody Allen	Email@email.com	Submitted for grading Graded	Grade 80.00 / 100.00	Edit	Thursday, 25 October 2018, 3:04 PM	My Trig AssignmentHandwritten...
<input type="checkbox"/>		Clint Eastwood	Clint@eastwood.com	Submitted for grading Graded	Grade 75.00 / 100.00	Edit	Thursday, 25 October 2018, 3:13 PM	My Trig AssignmentHandwritten...
<input type="checkbox"/>		Father Christmas	father@xmas.com	Submitted for grading Graded	Grade 100.00 / 100.00	Edit	Thursday, 25 October 2018, 3:11 PM	My Trig Assignment.pdf
<input type="checkbox"/>		Andy Capp	andy@capp.com	Submitted for grading	Grade / 100.00	Edit	Thursday, 25 October 2018, 3:08 PM	My Trig Assignment.pdf
<input type="checkbox"/>		Flo Capp	flo@capp.com	Submitted for grading	Grade / 100.00	Edit	Thursday, 25 October 2018, 3:10 PM	My Trig Assignment.pdf
<input type="checkbox"/>		Fred Flintstone	fred@flint.com	Submitted for grading	Grade / 100.00	Edit	Thursday, 25 October 2018, 3:14 PM	My Trig Assignment.pdf

Reset table preferences

Feedback files

Final grade

model answers.pdf 80.00 / 100.00

model answers.pdf 75.00 / 100.00

model answers.pdf 100.00 / 100.00

model answers.pdf

**N3 Math Marking Guide**

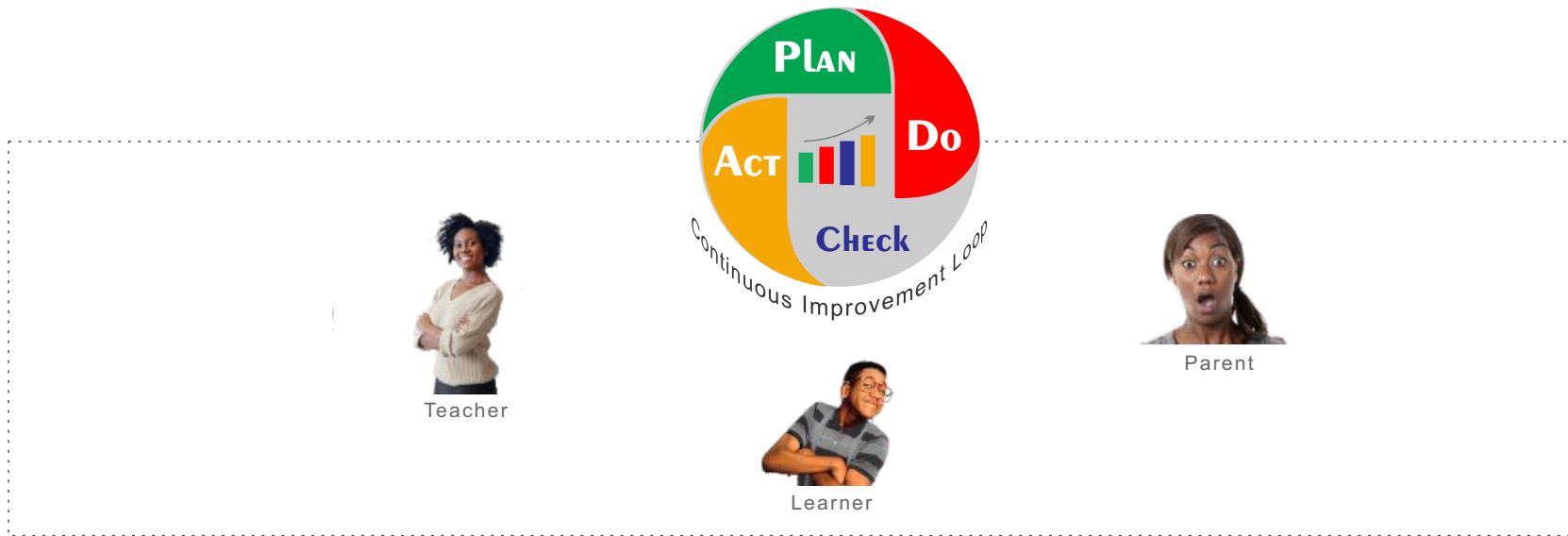
mATH(ə) matiks  
TRIGONOMETRY

Navigation  
Administration

model answers (3).pdf

Show all





4 Video Tutorials – In The Cloud with Learner Participation Tracking



6 Components of each syllabus section



# Video Tutorials – In The Cloud with Learner Participation Tracking



VIDEO TUTORIAL BANK

**Video Tutorial Bank:** A substantial selection of Video Tutorials that covers all areas of the syllabus. You can also add your own.

## VIDEO TUTORIALS

With Learner Participation Tracking

**Extra Lessons.** Learners can engage video tutorials in the classroom or thereafter as extra lessons, anywhere anytime. Learner viewing activity is logged by the system to enable teachers to monitor learners 24/7.

Videos can be used as standalone or in conjunction with short-question or long-question exam paper based exercises.

- N3 Video Tutorial: Trigonometry and Mensuration
  - N3 Video Tutorial: 2D Trigonometry
    - N3 Video Tutorial: Revising Trigonometry
      - N3 Video Tutorial: Solving Trig Equations
        - N3 Video Tutorial: Solving Trigonometry Problems
          - N3 Video Tutorial: Sine, Cosine and Area rules
            - N3 Video Tutorial: Solving Trig Equations
              - N3 Video Tutorial: Solving Trig Identities
                - N3 Video Tutorial: Trigonometry Reduction Formulae
                  - N3 Video Tutorial: Revising Trigonometry
                    - N3 Video Tutorial: Solving 2D and 3D Trig Problems
- Definitions of Trig Ratios
  - N3 Video Tutorial: Unit Circle Definition of Trig Functions
    - N3 Video Tutorial: Introduction to Trigonometric Functions
      - N3 Video Tutorial: Using Definitions of Trig Functions



Teacher

Teachers can preselect & schedule tutorials for learners



Learner records show which videos learners have watched



Learners can select & view tutorials for themselves



CAST Diagram

- N3 Video Tutorial: CAST Diagram Part 1
- N3 Video Tutorial: CAST Rule of Trigonometry
- N3 Video Tutorial: Trigonometry Basic -- CAST Rule

Simplify expressions / Trig-identities

- N3 Video Tutorial: Simplifying Trigonometric Expressions
- N3 Video Tutorial: Simplifying Trigonometric Expressions Involving Fractions
- N3 Video Tutorial: Simplifying Trigonometric Expressions Using Identities

Solving Trig equations

- N3 Video Tutorial: Using the Quadrant Rule to solve trig. equations
- N3 Video Tutorial: Solving Trigonometric Equations
- N3 Video Tutorial: Trigonometry : Solving Equations using identities

Solving Oblique Triangles

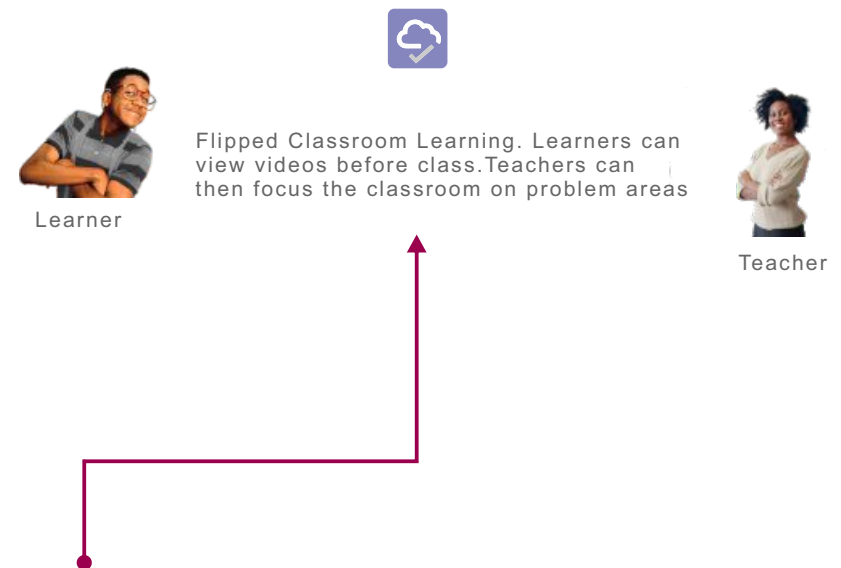
- N3 Video Tutorial: Law of Sines & Cosines - SAA, ASA, SSA, SSS One, Two, or No Solution Solving Oblique Triangles
- N3 Video Tutorial: Solving Oblique Triangle
- N3 Video Tutorial: Oblique Triangles Law of Sines

Area of Oblique Triangles

- N3 Video Tutorial: Area of oblique triangles SAS SSS Heron's Formula
- N3 Video Tutorial: Area Of A Non-Right Angle Triangle
- N3 Video Tutorial: Area of a Triangle Using Trigonometry

Sin and Cos Graphs

- N3 Video Tutorial: Trigonometry Graphs and Equations
- N3 Video Tutorial: Trigonometry - Sin and Cos Graphs




6 Components of each syllabus section

Dashboard > Courses > Maths N3 > N3 - Trigonometry > Video Tutorials – In The Cloud with Learner Partic... > N3 Video Tutorial: Area Of A Non-Right Angle Triangle

## N3 Video Tutorial: Area Of A Non-Right Angle Triangle

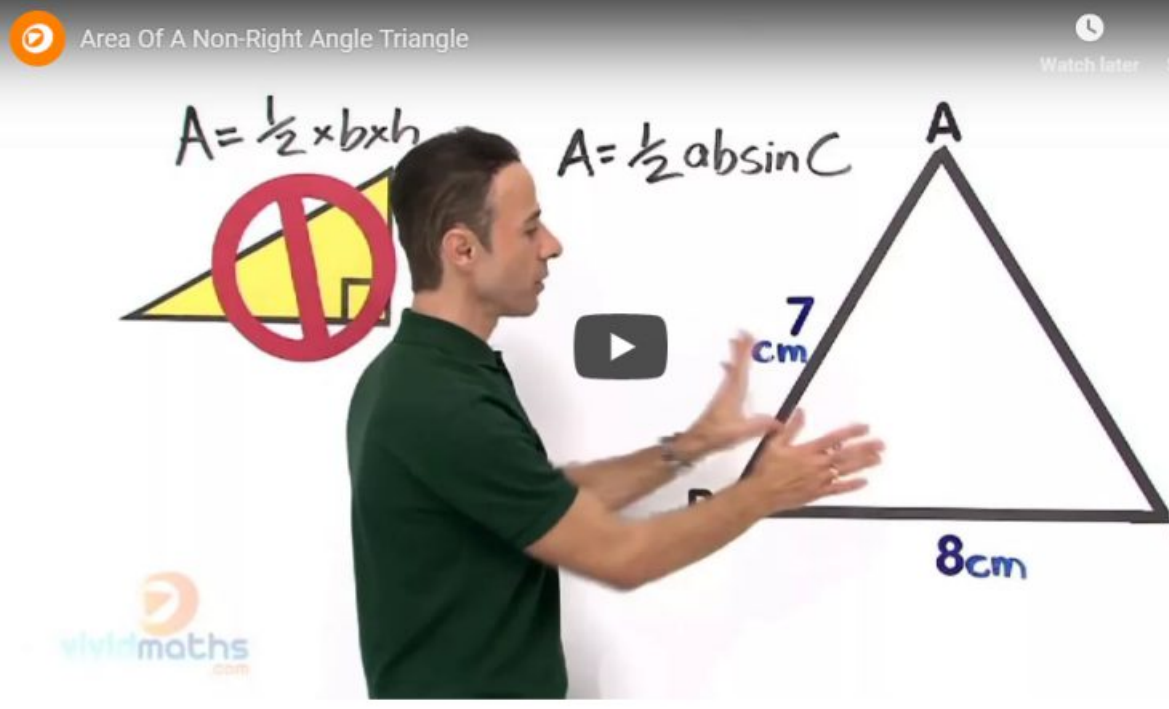
**Go Back**



Video Tutorial Bank:  
700 hours of video tutorials

**Area Of A Non-Right Angle Triangle**

$A = \frac{1}{2} \times b \times h$        $A = \frac{1}{2} ab \sin C$



**DOUBLE CLICK VIDEO - PLAY FULLSCREEN**  
Video Tutorials and Exercises

**Video Tutorials.** These can be used as standalone or in conjunction with short-question format exercises or assignments. You can schedule a sequence of videos to show or hide on a timeline basis, or dependant on student grading.

**Navigation**

- Dashboard
  - Site home
  - Current course
    - N3 - Trigonometry
      - Participants
      - Badges
      - Video Tutorials – In The Cloud with Learner Partic...
        - N3 Video Tutorial: Area Of A Non-Right Angle Triangle**
    - My courses

**Administration**

- Page module administration
  - Edit settings
  - Locally assigned roles
  - Permissions
  - Check permissions
  - Filters
  - Logs
  - Backup
  - Restore
- Course administration
- Switch role to...
- Site administration
- Log in as

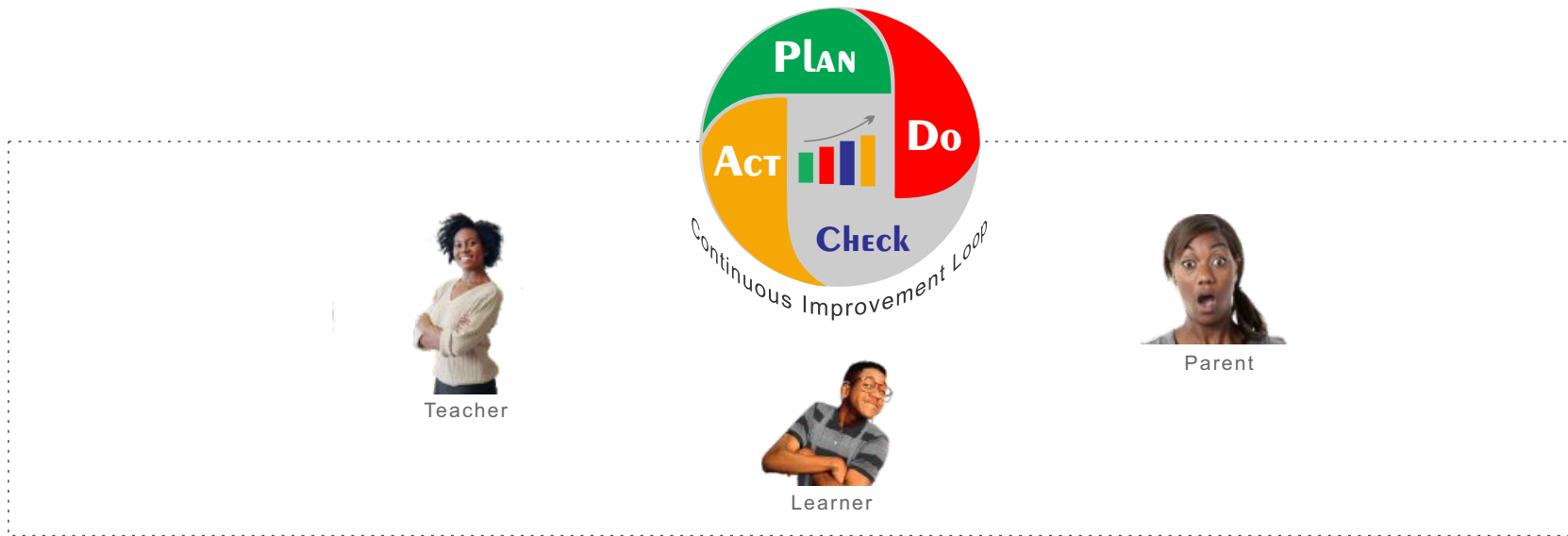
Search

Desktop, Laptop, Tablet, Mobile Phone

4



6 Components of each syllabus section



5 Skype, Live Chat, Course Feedback, Class Participation



6 Components of each syllabus section

5

# Skype, Live Chat, Course Feedback, Class Participation



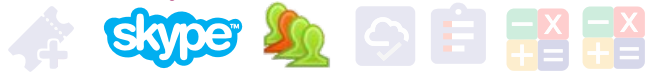
Live Chat

Automated Skype Conferencing

Learner Course Feedback

Face to Face Classroom Participation Register

Online Attendance & Participation Register



6 Components of each syllabus section

Navigation + ←

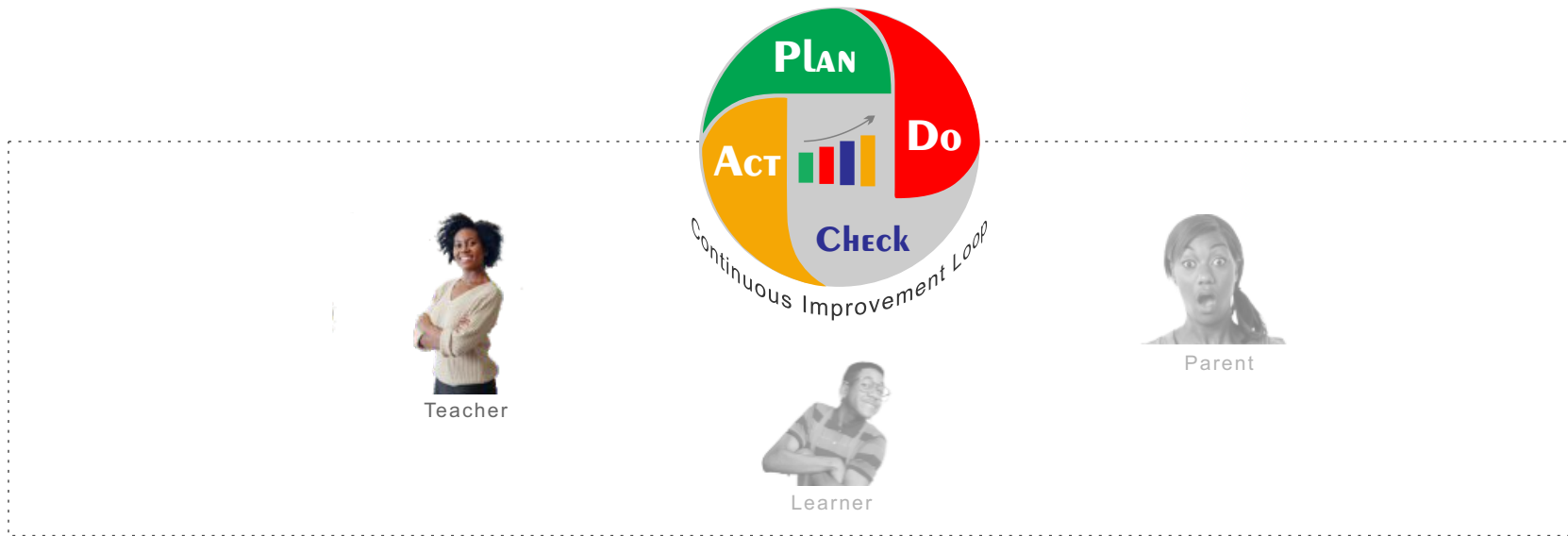
Search forums - ←

**Go**

[Advanced search ?](#)

Administration - ←

- ▼ Course administration
  - Turn editing on
  - Edit settings
  - Users
  - Filters
  - Reports
  - Grades
  - Gradebook setup



6 Teacher's Toolbox - Only Visible to Teachers



6 Components of each syllabus section

6

Teacher's Toolbox - Only Visible to Teachers



Teacher

Exam Paper Based Teacher's Assignment Bank

- N3 Questions-Trigonometry
- N3 Answers-Trigonometry

Teacher's Helpdesk

Submit Customer Support Ticket

Math Simulation Exercises

Simulations

Teacher's Support Docs - How to?

- Teacher's Induction Manual Managing Course Layout, Appearance
- Teacher's Induction Manual Short-Question Format – Interactive Online Exercises
- Teacher's Induction Manual Short-Question Format Exercise – Previous Grade Recap
- Teacher's Induction Manual Long-Question Format: Individual, Group or Peer-Reviewed Assignments
- Teacher's Induction Manual Customisable Video Tutorials
- Teacher's Induction Manual Managing the Grade Book.pdf

- Reset
- Question bank
- Repositories
- Published as LTI tools
- Competencies
- Recycle bin
- Switch role to...
- Site administration
- Log in as
- 
- Search

Latest announcements

Add a new topic...

(No news has been posted yet)

Upcoming events

There are no upcoming events

Go to calendar...

New event...

Recent activity

Activity since Saturday, 20 October 2018, 1:20 PM

Full report of recent activity...

No recent activity



6 Components of each syllabus section



Teacher

- 4 ▶ Video Tutorials – In The Cloud with Learner Participation Tracking
- 5 ▶ Skype, Live Chat, Course Feedback, Class Participation
- 6 ▼ Teacher's Toolbox - Only Visible to Teachers

Exam Paper Based Teacher's Assignment Bank

- N3 Questions-Trigonometry
- N3 Answers-Trigonometry

Teacher's Helpdesk  
Submit Customer Support Ticket

Math Simulation Exercises  
Simulations

Teacher's Support Docs - How to?  
Teacher's Induction Manual Managing Course Layout, Appearance

The image shows two browser windows side-by-side. The left window displays the 'N3 Math Exam Paper' and the right window displays the 'N3 Math Marking Guide'. Both documents feature a background image of a student writing in a notebook. The browser tabs are labeled 'N3-Questions-Trigonometry - Google Chrome' and 'N3-Answers-Trigonometry - Google Chrome'. The URL for both is 'www.fusionbook.co.za/n3/N3-Questions-Trigonometry.pdf'. At the bottom of the browser windows, there is a 'Latest announcements' section with a notification icon.



6 Components of each syllabus section



Exam Paper Based Teacher's Assignment Bank

- N3 Questions-Trigonometry
- N3 Answers-Trigonometry

Teacher's Helpdesk

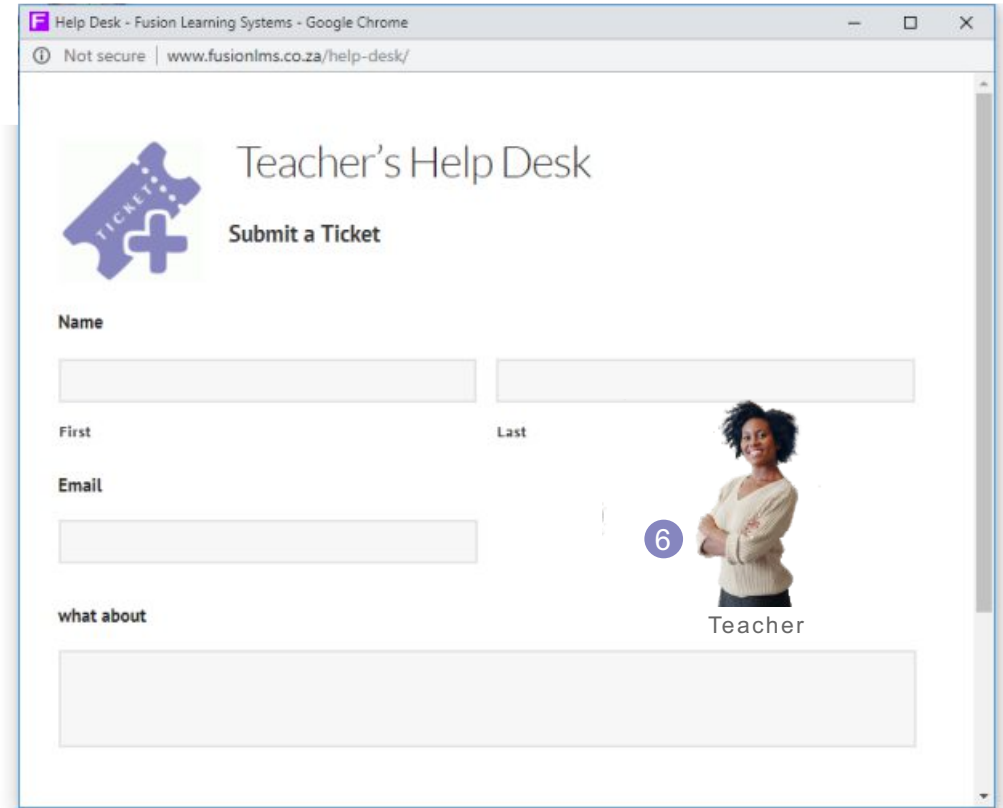
Submit Customer Support Ticket

Math Simulation Exercises

Simulations

Teacher's Support Docs - How to?

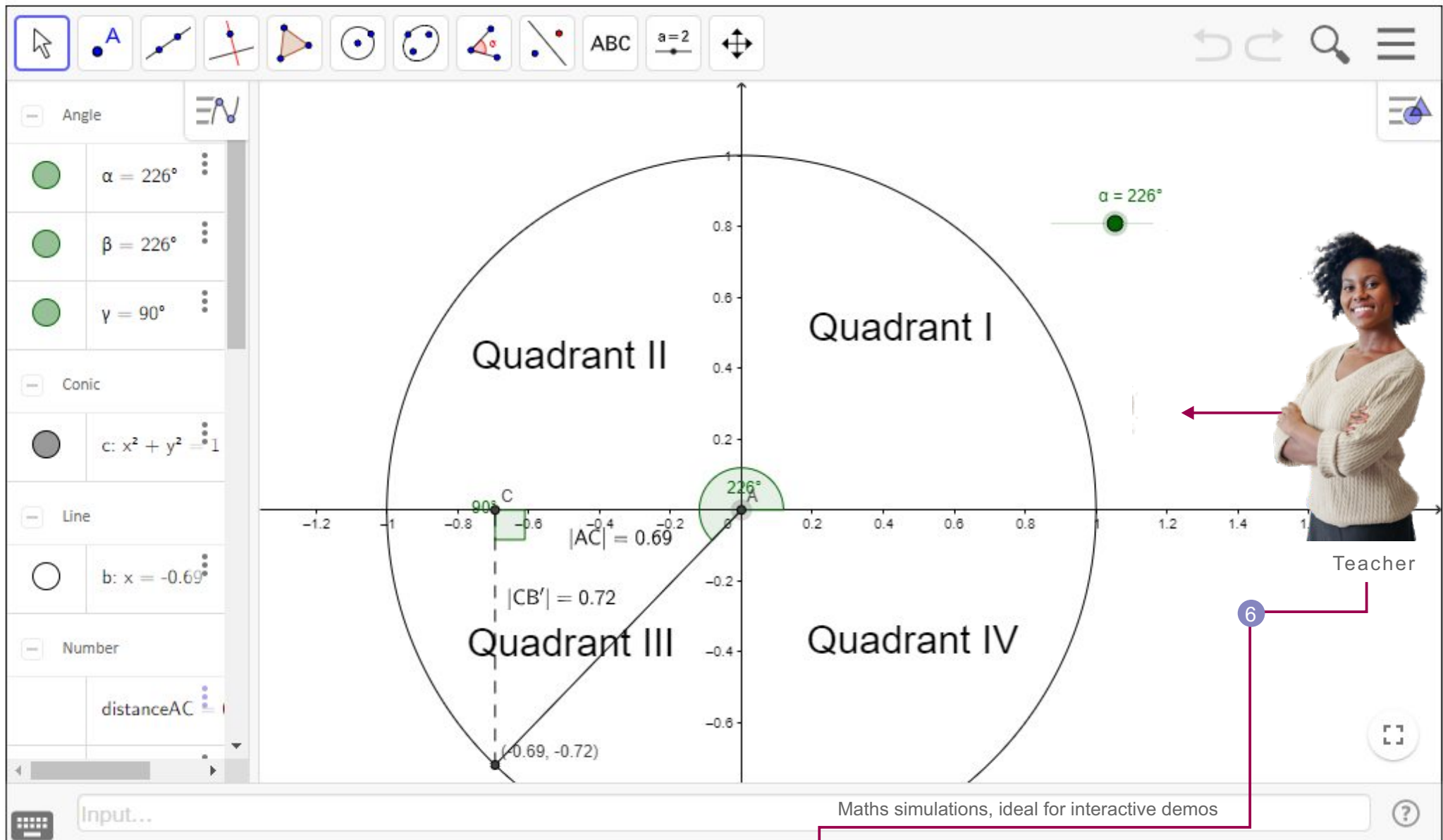
- Teacher's Induction Manual Managing Course Layout, Appearance
- Teacher's Induction Manual Short-Question Format – Interactive Online Exercises
- Teacher's Induction Manual Short-Question Format Exercise – Previous Grade Recap
- Teacher's Induction Manual Long-Question Format: Individual, Group or Peer-Reviewed Assignments
- Teacher's Induction Manual Customisable Video Tutorials
- Teacher's Induction Manual Managing the Grade Book.pdf
- Teacher's Induction Harnessing Learner Records
- How to set up Automated Skype
- Math-Specific Learner Satisfaction Survey



6 Components of each syllabus section

# Trigonometry

## Simulation Exercises



6 Components of each syllabus section

Your *loGo* GOES HERE  
mATH(S)LAB®

Username Password   
 Forgotten your username or password?

# MaTH(s)Lab OpenDemos ▾

**TO VIEW COURSE CONTENT  
SELECT FROM TOP NAVIGATION BAR**

Search courses

- Maths Grade 12 IEB
- Maths Grade 12
- Maths Grade 11
- Maths Grade 10
- Maths N1
- Maths N2
- Maths N3
- Maths N4
- Maths N5
- Maths N6

Online Maths Lab - exclusive to your college/school

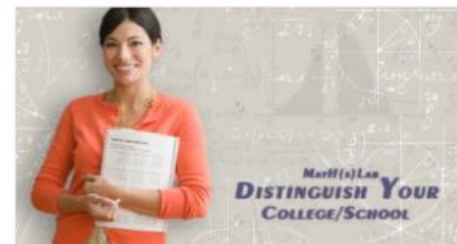
Automation for TEACHERS, Better Grades for LEARNERS, Keeps PARENTS in the loop

✔ Online Maths Lab - Unique for each College/School

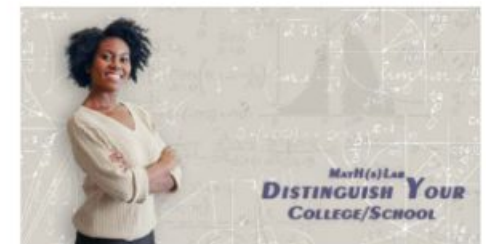
**Blended Learning**  
mATH(S)LAB®



✔ **Better Grades, Individual Attention:** This Online Maths Lab works alongside Face2Face Classroom Teaching. It helps teachers reach a larger group of learners with more individual attention, producing better grades. ✔ **Automated,** takes pressure off the teacher and keeps parents in the loop. ✔ **Anytime anywhere.** Multiple Media Responsive layout, Desktop, Laptop, Tablet, Mobile.



✔ **Maths Grade 10-12:** CAPS and IEB aligned. 2500 Short format Math exercises. 500 Exam and Test preparation assignment exercises. Automated assignments. >300 Hours of Video Tutorials



✔ **Maths Level N1-N6 :** NATED. 2200 Short format Math exercises. 400 Exam and Test preparation assignment exercises. Automated assignments. >400 Hours of Video Tutorials

BROCHURE

# 2

## ONLINE COURSE DEMO MOBILE VIEW

Print this brochure and follow it online  
Open-Demos. No Password needed.

[www.fusionlms.net](http://www.fusionlms.net)

**YouR loGo** GOES HERE  
mATH(S)LAB®

#

### TO VIEW COURSE CONTENT SELECT FROM TOP NAVIGATION BAR



Online Math(s)Lab – exclusive to your college/school

Automation for TEACHERS, Better Grades for LEARNERS, Keeps PARENTS in the loop

### ✔ Online Maths Lab - Unique for each College/School

### Blended Learning

mATH(S)LAB®

COMBINING THE BEST TEACHING METHODS



✔ **Better Grades, Individual Attention:** This Online Maths Lab works alongside Face2Face Classroom Teaching. It helps teachers reach a larger group of learners with more individual attention, producing better grades. ✔ **Automated,** takes pressure off the teacher and keeps parents in the loop. ✔ **Anytime anywhere.** Multiple Media Responsive layout, Desktop, Laptop, Tablet, Mobile.



✔ **Maths Grade 10-12:**  
CAPS and IEB aligned.  
2500 Short format Math exercises. 500 Exam and Test preparation assignment exercises.  
Automated assignments.  
>300 Hours of Video



✔ **Maths Level N1-N6 :**  
NATED. 2200 Short format Math exercises. 400 Exam and Test preparation assignment exercises.  
Automated assignments.  
>400 Hours of Video Tutorials