

Importing LaTeX Equations into Quizzes By Omar Al-Sawaeer

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Introduction

- ▶ LaTeX is a popular document typesetting system for typesetting math. With the Moodle LaTeX package, one can generate a Moodle XML file containing quiz questions from a document authored using LaTeX. The Moodle XML file can then be used to bulk import multiple questions into a question bank in E-Learning.
- ▶ To import LaTeX questions into:
 - ▶ Compile a PDF and a Moodle XML file.
 - ▶ Import your Moodle XML file into your quiz Question bank in E-Learning.

Compiling a PDF and Moodle XML File

- Step 1: Write a LaTeX document: To write a LaTeX document, you will need to create a plain text file with the extension `.tex`. TeX documents can be compiled using a TeX distribution typesetting program, or an online LaTeX editor such as Overleaf.
- ❖ There are many TeX distributions available for various operating systems, including:
 - MiKTeX for Windows
 - TeX Live for Linux
 - MacTeX for macOS
- ❖ To Write a LaTeX document for import into E-Learning: Use `\usepackage{moodle}`. When writing Multiple Choice questions in your TeX editor, ensure you use the next example format to ensure the code is accepted by E-learning when you import your questions.

Example:

```
\documentclass[12pt]{article}
```

```
\usepackage{moodle} //This is a very important line!!!!
```

```
\newcommand
```

```
\monomial[1]{x^{\#1}}
```

```
\newcommand
```

```
\sillyanswer{What!??}
```

```
\begin{document}
```

```
\begin{quiz}{My first quiz}
```

```
\begin{numerical}[points=2]{Basic addition}What is  $8+3$ ?
```

```
\item 11
```

```
\end{numerical}
```

```
\begin{shortanswer}[usecase]{Newton's name}What was Newton's first name?
```

```
\item Isaac
```

```
\item[fraction=0, feedback={\sillyanswer}] Fig\item[fraction=0] Sir
```

```
\end{shortanswer}
```

```
\begin{multi}[points=3]{A first derivative}What is the first derivative  
of  $\monomial{3}$ ? \item  $\frac{1}{4}\monomial{4}+C$  \item[feedback={yes!}]  $*3\monomial{2}$ 
```

```
\item[feedback={\sillyanswer}]  $\$51$ 
```

```
\end{multi}
```

```
\end{quiz}
```

```
\end{document}
```

❖ Compile the LaTeX document into a PDF, here we will download MiKTeX from the following [link](#)



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Getting MiKTeX

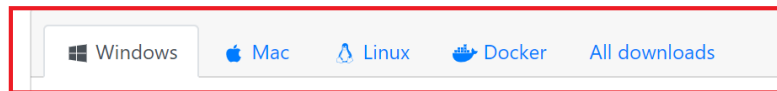
MiKTeX is available for selected operating systems.

Please check the [prerequisites](#) in order to find out whether your system is supported.

If your system is not (yet) supported: it is not too difficult to [build MiKTeX](#).

Free Writing Assistant
Real-time suggestions whenever you write. Try Grammarly today

Grammarly [Download >](#)



Installer **Portable Edition** Command-line installer

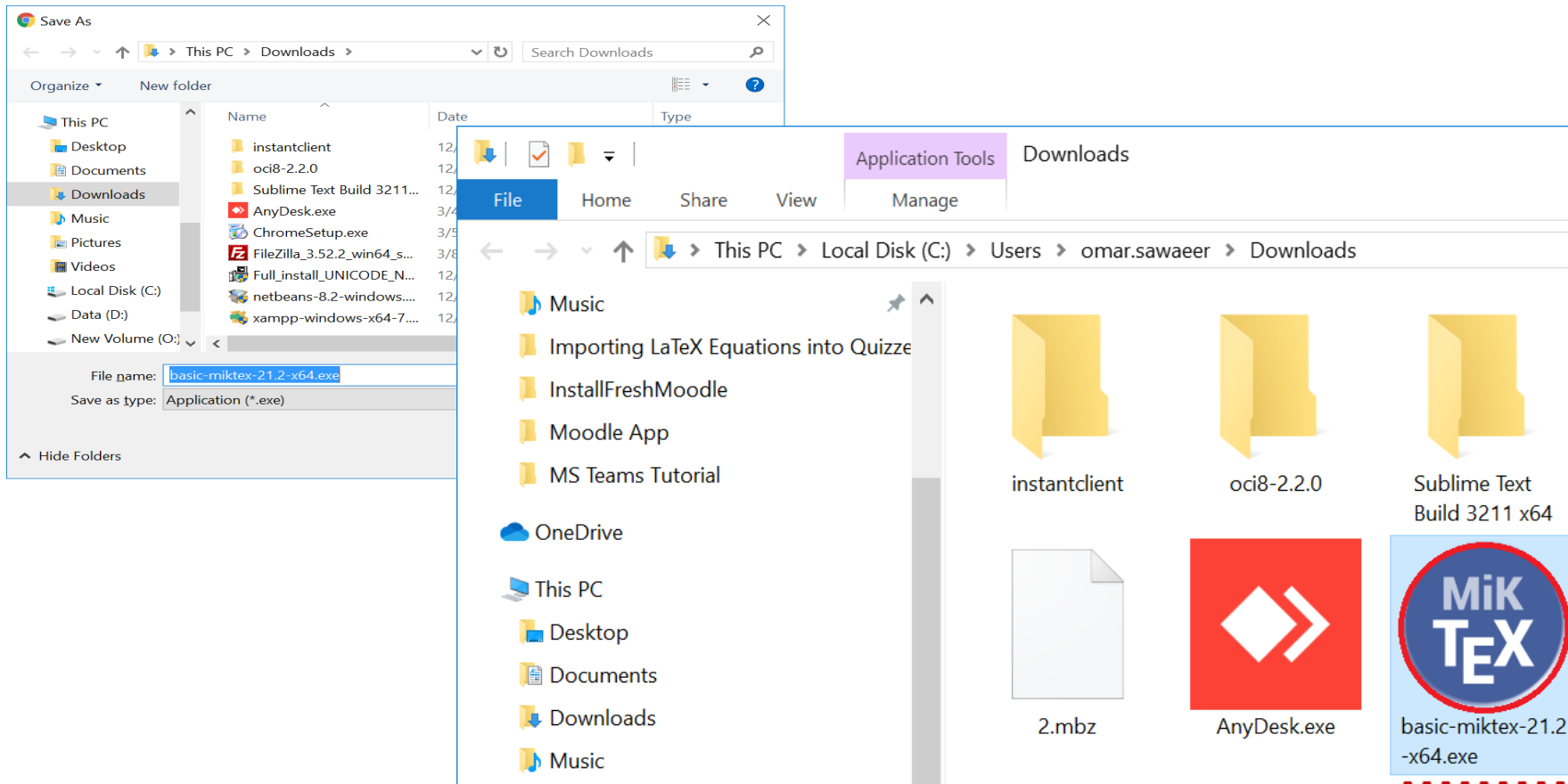
To install a basic TeX/LaTeX system on Windows, download and run this installer.

Please read the [tutorial](#), if you want step-by-step guidance.

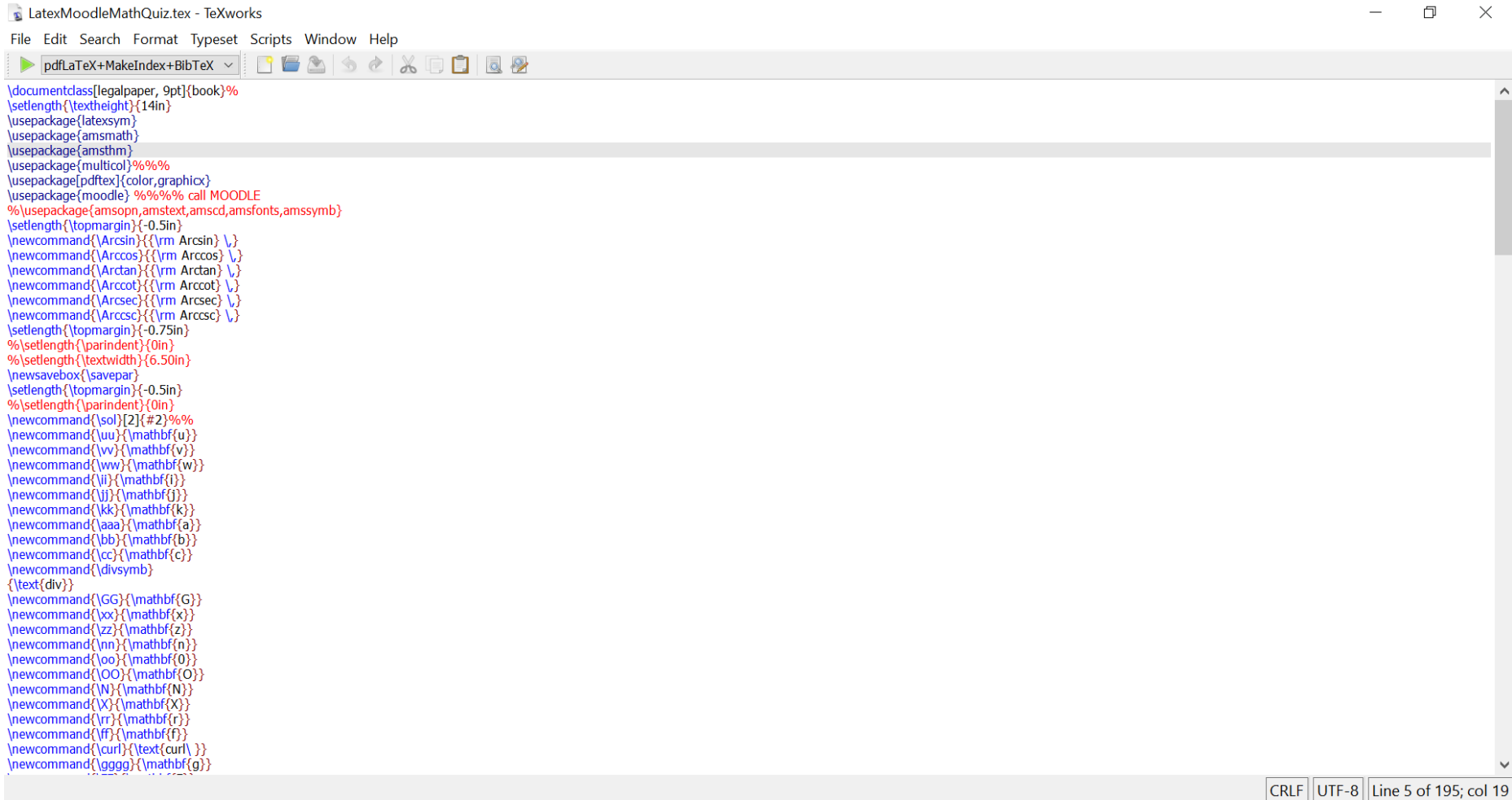
Date:	2/23/2021
File name:	basic-miktex-21.2-x64.exe
Size:	243.83 MB
SHA-256:	cb4160f7d3f310ff3490b51004596c2e42d272c08e8a1143d0757ece1ebf9d07

[Download](#)

❖ Save the program and run it, then accept Copying conditions for MiKTeX and click all the Next buttons



❖ After the installation, open your Tex document

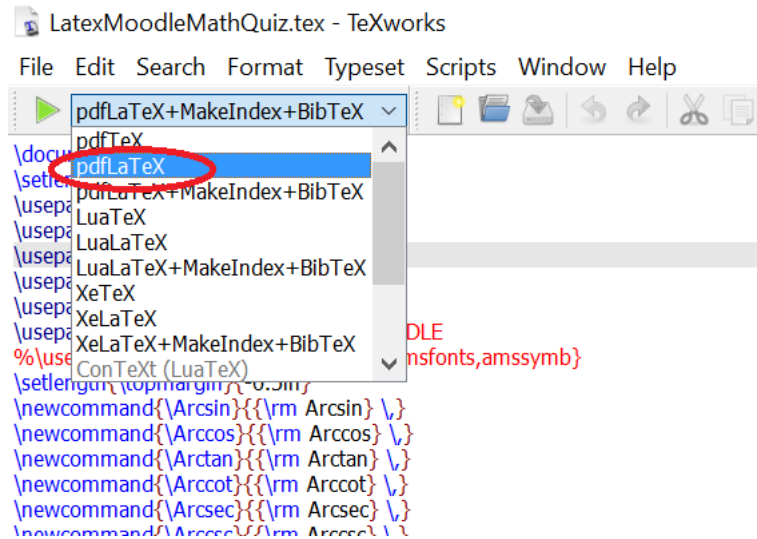


The screenshot shows the TeXworks editor window titled "LatexMoodleMathQuiz.tex - TeXworks". The menu bar includes "File", "Edit", "Search", "Format", "Typeset", "Scripts", "Window", and "Help". The toolbar contains icons for opening files, saving, undo, redo, and other editing functions. The main text area contains the following LaTeX code:

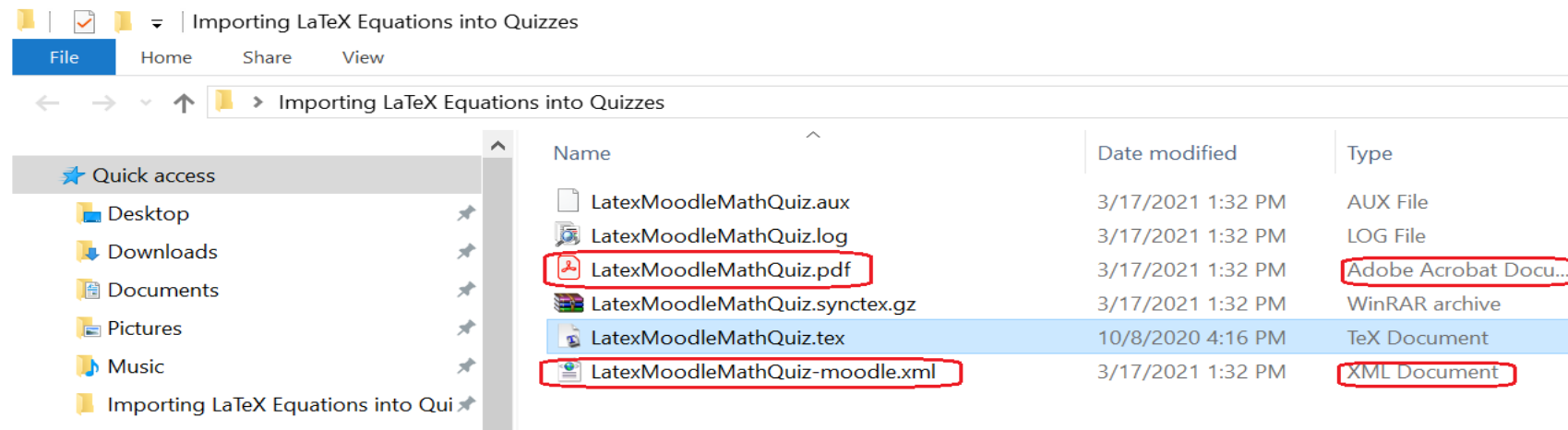
```
\documentclass[legalpaper, 9pt]{book}%
\setlength{\textheight}{14in}
\usepackage{latexsym}
\usepackage{amsmath}
\usepackage{amsthm}
\usepackage{multicol}%%%%
\usepackage{pdfTeX}{color,graphicx}
\usepackage{moodle} %%% call MOODLE
%\usepackage{amsopn,amstext,amscd,amsfonts,amssymb}
\setlength{\topmargin}{-0.5in}
\newcommand{\Arcsin}{\rm Arcsin} \}
\newcommand{\Arccos}{\rm Arccos} \}
\newcommand{\Arctan}{\rm Arctan} \}
\newcommand{\Arccot}{\rm Arccot} \}
\newcommand{\Arcsec}{\rm Arcsec} \}
\newcommand{\Arccsc}{\rm Arccsc} \}
\setlength{\topmargin}{-0.75in}
%\setlength{\parindent}{0in}
%\setlength{\textwidth}{6.50in}
\newsavebox{\savepar}
\setlength{\topmargin}{-0.5in}
%\setlength{\parindent}{0in}
\newcommand{\sol}[2]{#2}%%
\newcommand{\uu}{\mathbf{u}}
\newcommand{\vv}{\mathbf{v}}
\newcommand{\ww}{\mathbf{w}}
\newcommand{\ii}{\mathbf{i}}
\newcommand{\jj}{\mathbf{j}}
\newcommand{\kk}{\mathbf{k}}
\newcommand{\aaa}{\mathbf{a}}
\newcommand{\bbb}{\mathbf{b}}
\newcommand{\ccc}{\mathbf{c}}
\newcommand{\divsymb}
{\text{\div}}
\newcommand{\GG}{\mathbf{G}}
\newcommand{\xx}{\mathbf{x}}
\newcommand{\zz}{\mathbf{z}}
\newcommand{\nn}{\mathbf{n}}
\newcommand{\oo}{\mathbf{0}}
\newcommand{\OO}{\mathbf{O}}
\newcommand{\N}{\mathbf{N}}
\newcommand{\X}{\mathbf{X}}
\newcommand{\rr}{\mathbf{r}}
\newcommand{\ff}{\mathbf{f}}
\newcommand{\curl}{\text{curl} \}
\newcommand{\ggg}{\mathbf{g}}
```

The status bar at the bottom right indicates "CRLF", "UTF-8", and "Line 5 of 195; col 19".

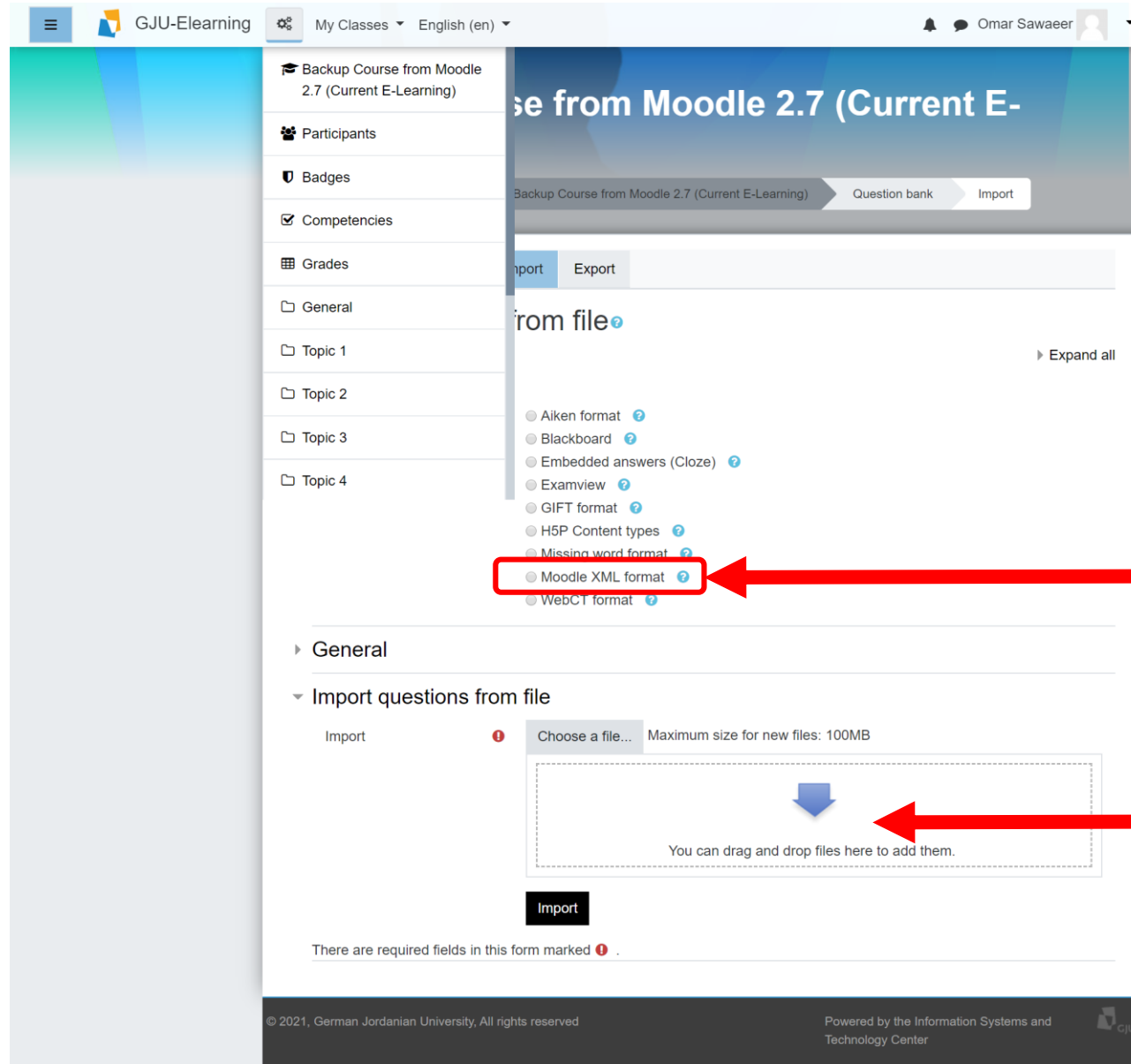
- ❖ Select pdfLaTeX from the dropdown menu, and click the run button ▶



- ❖ After it finished, a new pdf and xml documents have been produced



❖ Now we just need to import the XML file into E-Learning



The screenshot shows the Moodle E-Learning interface. The top navigation bar includes 'GJU-Elearning', 'My Classes', 'English (en)', and a user profile for 'Omar Sawaeer'. The main content area is titled 'Backup Course from Moodle 2.7 (Current E-Learning)'. Below the title, there are tabs for 'Backup Course from Moodle 2.7 (Current E-Learning)', 'Question bank', and 'Import'. The 'Import' tab is active, and the 'Import from file' section is visible. A list of import formats is shown, with 'Moodle XML format' highlighted by a red box and a red arrow. Below the list, there is a 'General' section and an 'Import questions from file' section. The 'Import questions from file' section has a 'Choose a file...' button and a file upload area with a blue arrow pointing down and the text 'You can drag and drop files here to add them.' A red arrow points to this area. At the bottom, there is an 'Import' button and a message: 'There are required fields in this form marked [red icon]'.

Choose the Moodle XML format

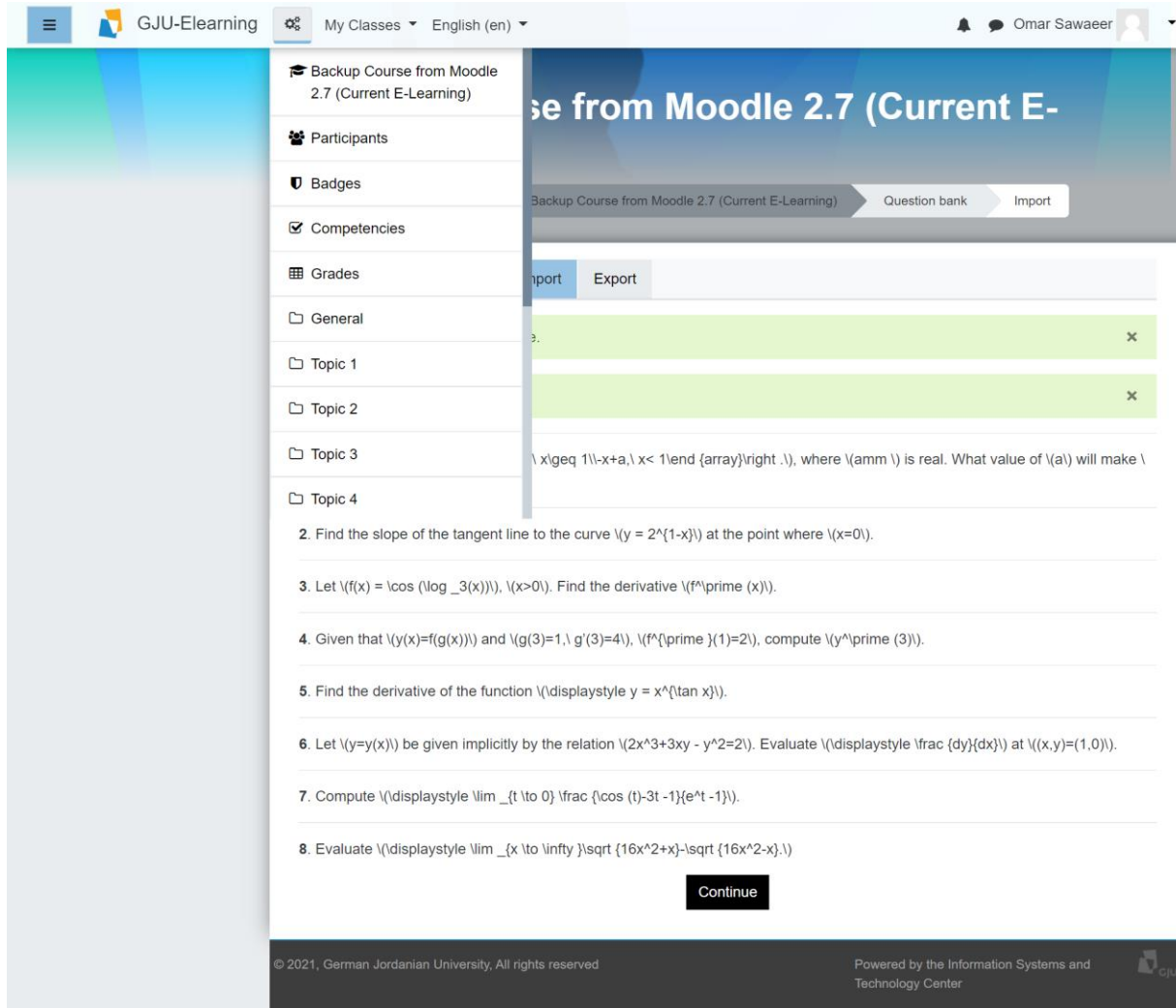
Drag and drop the XML file

❖ Click import

The screenshot shows the Moodle interface for a course titled "Backup Course from Moodle 2.7 (Current E-Learning)". The left sidebar contains navigation options: Backup Course from Moodle 2.7 (Current E-Learning), Participants, Badges, Competencies, Grades, General, Topic 1, Topic 2, Topic 3, and Topic 4. The main content area has tabs for "Question bank" and "Import". The "Import" tab is active, displaying a "from file" section with a list of question formats: Aiken format, Blackboard, Embedded answers (Cloze), Examview, GIFT format, H5P Content types, Missing word format, Moodle XML format, and WebCT format. Below this is a "General" section with a sub-section "Import questions from file". This sub-section includes a file selection area with a "Choose a file..." button and a note "Maximum size for new files: 100MB". A file named "LatexMoodleMathQuiz-moodle.xml" is listed. At the bottom of this section is a red-bordered "Import" button. A red arrow points from the text "Click import" to this button. At the bottom of the page, there is a footer with copyright information: "© 2021, German Jordanian University, All rights reserved" and "Powered by the Information Systems and Technology Center".

Click import

❖ The questions imported successfully! Now let's click continue and see it



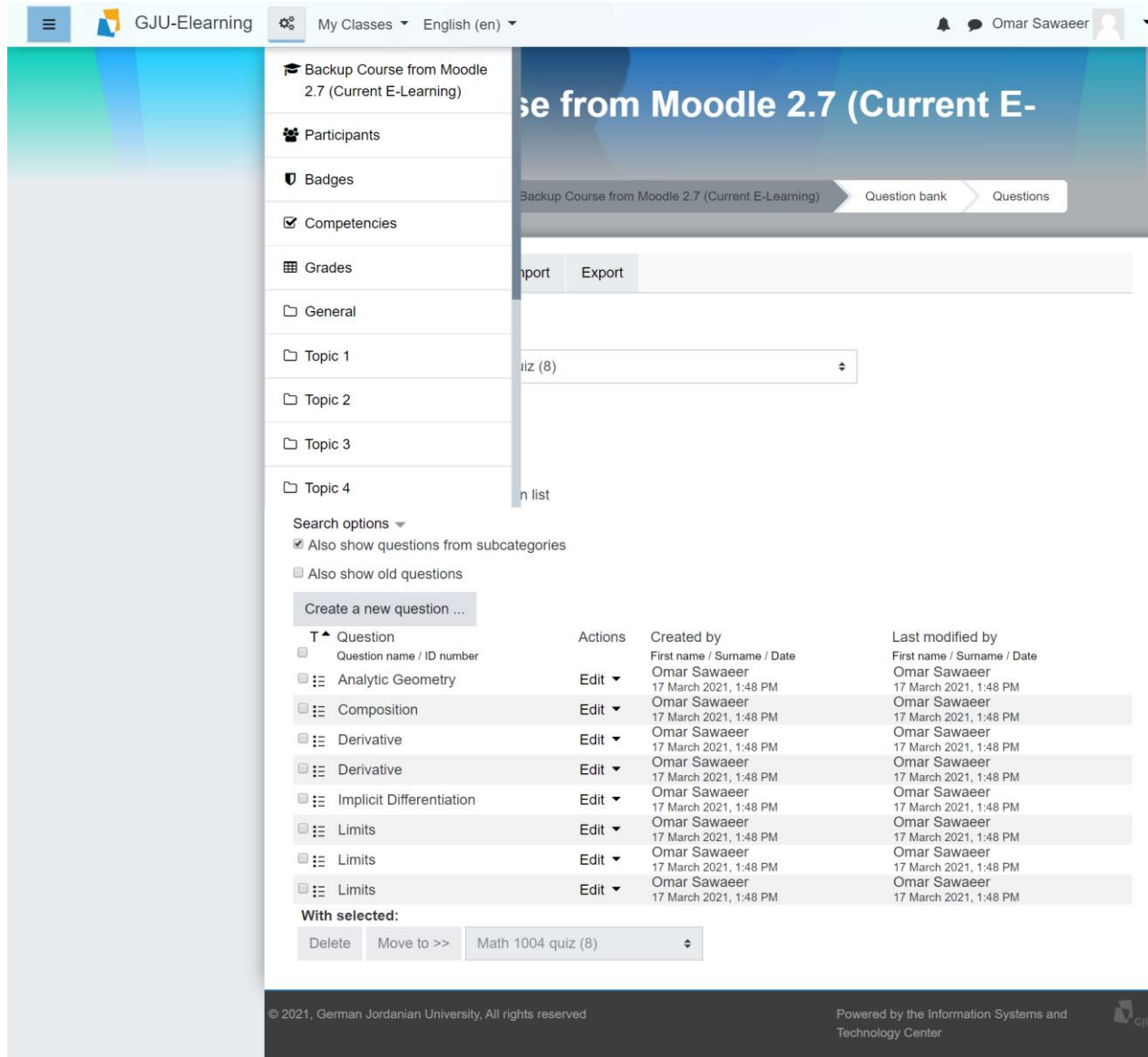
The screenshot shows the GJU-Elearning interface. The top navigation bar includes the GJU-Elearning logo, a user profile for Omar Sawaeer, and a language dropdown set to English (en). The main content area is titled "Backup Course from Moodle 2.7 (Current E-Learning)" and features a breadcrumb trail: "Backup Course from Moodle 2.7 (Current E-Learning) > Question bank > Import". Below the breadcrumb, there are "Import" and "Export" buttons. The main content area displays a list of imported questions, each with a green bar and a close button (X). The questions are:

1. Find the value of a such that $\lim_{x \rightarrow a} \frac{1}{x} = \infty$.
2. Find the slope of the tangent line to the curve $y = 2^{1-x}$ at the point where $x=0$.
3. Let $f(x) = \cos(\log_3(x))$, $x > 0$. Find the derivative $f'(x)$.
4. Given that $y=f(g(x))$ and $g(3)=1, g'(3)=4, f'(1)=2$, compute $y'(3)$.
5. Find the derivative of the function $y = x^{\tan x}$.
6. Let $y=y(x)$ be given implicitly by the relation $2x^3+3xy - y^2=2$. Evaluate $\frac{dy}{dx}$ at $(x,y)=(1,0)$.
7. Compute $\lim_{t \rightarrow 0} \frac{\cos(t)-3t - 1}{e^t - 1}$.
8. Evaluate $\lim_{x \rightarrow \infty} \sqrt[3]{16x^2+x} - \sqrt{16x^2-x}$.

A "Continue" button is located at the bottom of the question list.

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❖ Here is the imported questions



The screenshot shows the Moodle interface for a course titled "Backup Course from Moodle 2.7 (Current E-Learning)". The user is Omar Sawaeer. The course navigation menu on the left includes: Backup Course from Moodle 2.7 (Current E-Learning), Participants, Badges, Competencies, Grades, General, Topic 1, Topic 2, Topic 3, and Topic 4. The main content area shows the "Question bank" and "Questions" tabs. Below these, there are "Import" and "Export" buttons. A search bar contains "Math 1004 quiz (8)". Below the search bar, there are search options: "Also show questions from subcategories" (checked) and "Also show old questions" (unchecked). A "Create a new question ..." button is present. The main table lists imported questions with columns for Question, Actions, Created by, and Last modified by.

Question	Actions	Created by	Last modified by
Question name / ID number		First name / Surname / Date	First name / Surname / Date
Analytic Geometry	Edit	Omar Sawaeer 17 March 2021, 1:48 PM	Omar Sawaeer 17 March 2021, 1:48 PM
Composition	Edit	Omar Sawaeer 17 March 2021, 1:48 PM	Omar Sawaeer 17 March 2021, 1:48 PM
Derivative	Edit	Omar Sawaeer 17 March 2021, 1:48 PM	Omar Sawaeer 17 March 2021, 1:48 PM
Derivative	Edit	Omar Sawaeer 17 March 2021, 1:48 PM	Omar Sawaeer 17 March 2021, 1:48 PM
Implicit Differentiation	Edit	Omar Sawaeer 17 March 2021, 1:48 PM	Omar Sawaeer 17 March 2021, 1:48 PM
Limits	Edit	Omar Sawaeer 17 March 2021, 1:48 PM	Omar Sawaeer 17 March 2021, 1:48 PM
Limits	Edit	Omar Sawaeer 17 March 2021, 1:48 PM	Omar Sawaeer 17 March 2021, 1:48 PM
Limits	Edit	Omar Sawaeer 17 March 2021, 1:48 PM	Omar Sawaeer 17 March 2021, 1:48 PM

With selected: Delete Move to >> Math 1004 quiz (8)

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**Don't forget
to preview
your
questions**

Good luck

The image features the words "Good luck" in a bold, white, 3D sans-serif font. The text is centered and surrounded by a dense cloud of small, multi-colored rectangular confetti pieces in shades of red, green, blue, and yellow. The background is white, with a decorative geometric pattern of overlapping triangles in shades of blue and orange on the right side.