

Contributor Guide

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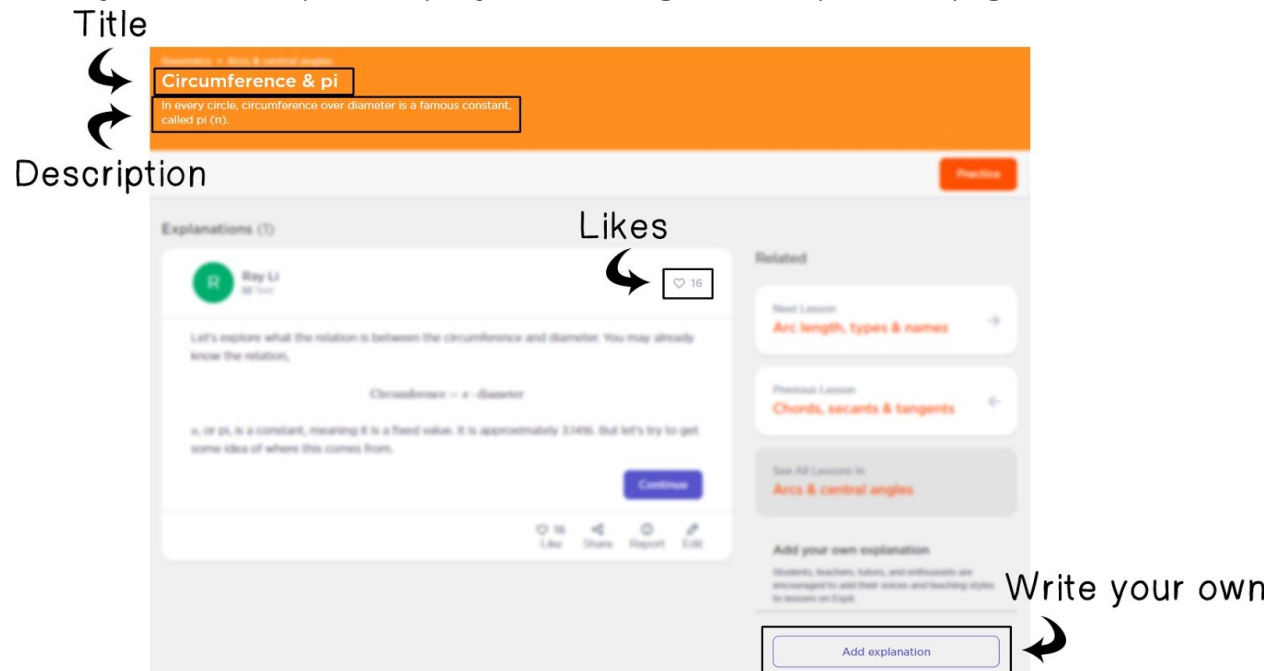
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Welcome to the Contributor's Club!

We are excited you're joining our education revolution. My name is Alex, and I'll be guiding you through our site. Here's what you need to know in order to contribute your unique ideas to ExpII.

Explanations

When you click on a specific topic, you'll be brought to an explanation page.



You'll find topic title and a brief description of what it entails at the top of your screen.

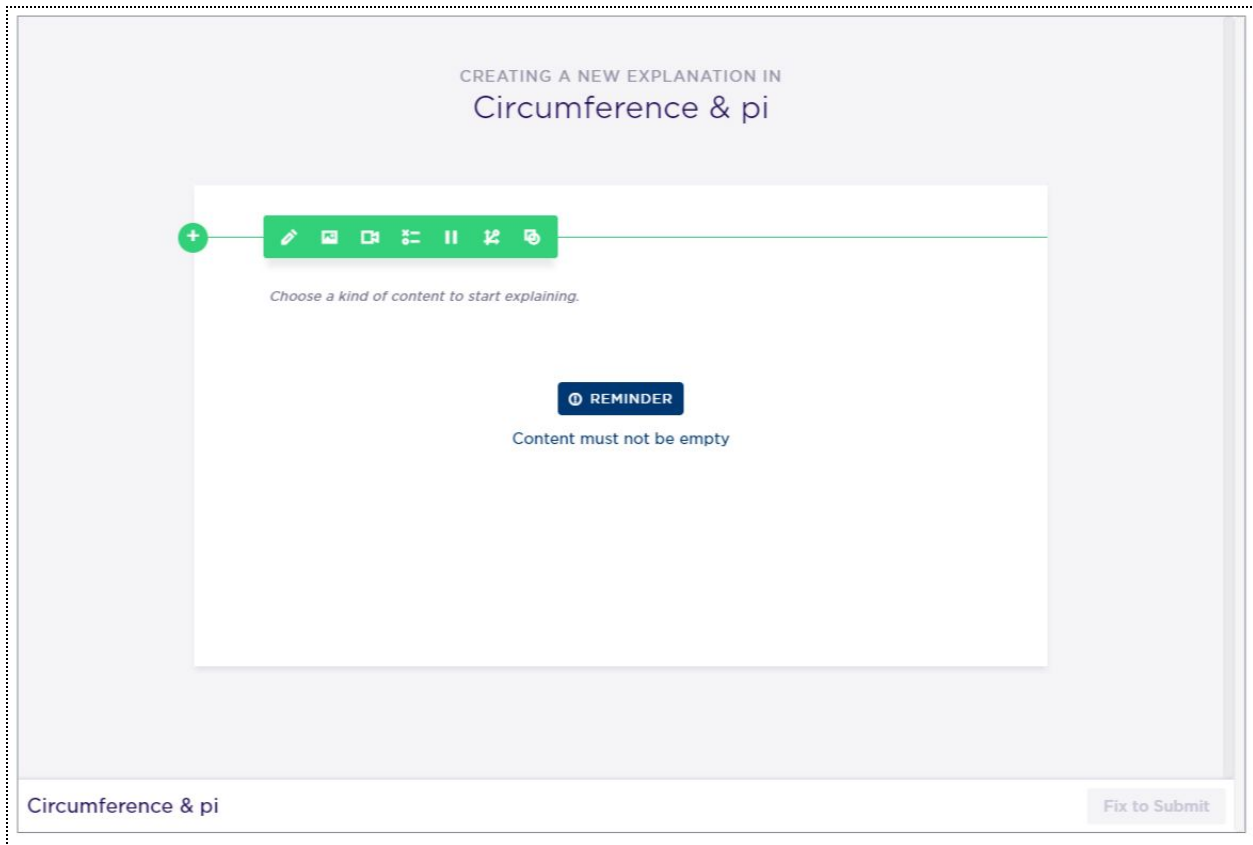
The explanations are listed in order of likes. Be sure to click the heart to upvote your favorite explanations.

At the the bottom right of your screen is the "Add explanation" button. Click on it to begin your contribution journey!

Okay, now that you have the lay of the land, let's get our hands dirty.

Writing an Explanation

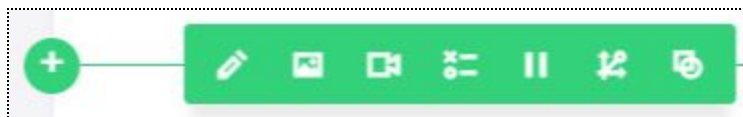
This is our explanation editor.



NOTE The editor will not let you submit until all the requirements have been met. The requirements are shown in the middle under the “REMINDER” box.

If you look at the bottom right corner, there’s a grayed out “Fix to Submit” button. When you meet the requirements, it will turn into a purple “Save and exit” button.

At the top of the editor, you’ll find a green toolbar.



From left to right on the green toolbar, here is each tool:

- **Plus:** Add more sections using the following tools:
- **Pencil:** Write in a blank text box. This is where you can put the text of your lesson or solutions to example problems.
- **Photo:** Insert a photo.
- **Video:** Embed a YouTube video using its link.
- **X/O:** Create a question. You can write a multiple choice question that the student has to answer in order to continue.
- **Pause:** Break the explanation into sections. You will have to click “Continue” to view the rest of the explanation.

- **Graph:** This doesn't work on our site anymore. DO NOT USE. If you want to display a graph, use [Desmos](#) to graph and upload as a **photo**.
- **Shapes:** This also doesn't work on our site anymore. DO NOT USE. If you would like to insert a shape, create an image to load as a **photo**.

Mix and match, alternate, repeat sections; do whatever works for your explanation.

Pencil

The pencil tool brings up a blank textbox. Write all text and [LaTeX](#) in a textbox. At the top of the textbox, you'll find another toolbar.



NOTE To submit an explanation with a textbox, the textbox cannot be empty.

NOTE There is a trash can symbol to the right. This deletes the entire box. There's no going back, so be careful.

Highlight the text you want to format, then select one of the options from the toolbar:

- **B:** Embolden the highlighted text.
- **I:** Italicize the highlighted text.
- **H:** Transform the highlighted text to header text.
- **Link:** Insert a link.
- **x²:** Insert an equation.

Bold

To make text bold, highlight the text and click on the **B**.

NOTE This places your text between **two** sets of asterisks. This is how the editor makes text bold. Honestly, you don't even need to hit the button. Just typing in two asterisks on each side of your text does the trick.

****Here's bold text in the editor.****

Here's bold text in the explanation.

Italic

To italicize text, highlight the text and click on the **I**.

NOTE This places your text between **one** set of asterisks. Again, you don't even need to hit the button. Who likes buttons anyways?

Here's italic text in the editor.

Here's italic text in the explanation.

Header

To make your text into a header, highlight the text and click on the **TT**.

NOTE This places three pound signs (now known as hashtags) in front of the text. You know what to do: use the pound signs instead of clicking on the button if you fancy.

There's also a secret second way to make a header, because one way isn't enough. You can put three equal signs below the text.

Here's a header with equal signs in the editor.

===

Here's a header with pound signs in the editor.

Here's a header with equal signs in the explanation.

Here's a header with pound signs in the explanation.

Link

To make text into a link, highlight the text and click on the **Link** symbol. This brings up a set of brackets [], followed by a set of parentheses (). Insert the text you want to make a link in the brackets [], and put the URL in the parentheses ().

[Here's a link to Google in the editor.](www.google.com)

Here's a link to Google in the explanation.

Equation

This brings up the equation editor, which turns your equation into LaTeX. If you don't want to learn LaTeX, this box will be your friend. I will guide you through using [LaTeX](#) below.

Secret Stuff

You won't find a button for lists in our editor, but I can show you the secret entrance for how to do make it work.

Numerated Lists

If you want to make a numerated list, just type “1. Blah 2. Blah Blah etc”. Just make sure each number is on its own line.

1. Here's a numerated list
2. in the editor
3. Each number needs to be a separate line

1. Here's a numerated list
2. in the explanation
3. Each number needs to be a separate line

NOTE Once you're done with the list, hit the return/enter key on your keyboard to move the cursor two lines down. Otherwise, your new line will join the text associated with the last number.

1. Here's my
 2. Numerated list
- Oh what the heck is happening! Why didn't I listen to Alex and continue writing two spaces down!

1. Here's my
2. Numerated list Oh what the heck is happening! Why didn't I listen to Alex and continue writing two spaces down!

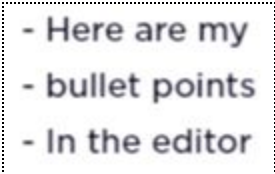
1. Here's my
 2. Numerated list
- Glad I was smart and listened to Alex by continuing two spaces down.

1. Here's my
 2. Numerated list
- Glad I was smart and listened to Alex by continuing two spaces down.

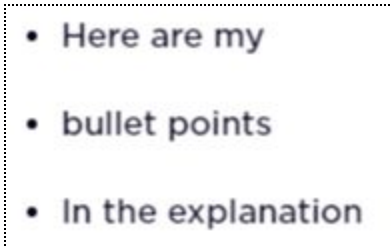
NOTE Numeration has a limitation: it will not continue where you left off. If you list three things, then write a paragraph, then list three more things, (i.e. thing four, five, and six), then the numeration will restart with 1, 2, and 3.

Bullet Points

Bulleted lists function similarly to the numeration explained above. For this, we use “- Blah - Blah Blah etc” to make bullet points. Each hyphen must be on its own line.



- Here are my
- bullet points
- In the editor

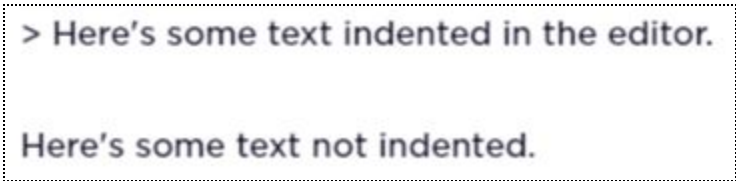


- Here are my
- bullet points
- In the explanation

NOTE Similar to the numerated list, you have to hit the return/enter key on your keyboard to move the cursor two lines down. Otherwise, your new line will join the text associated with the last bullet point.

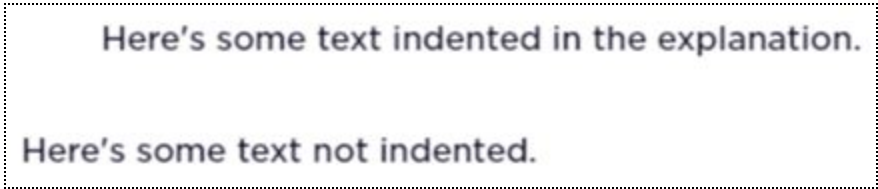
Indent

The final secret is indenting text. To indent, just type “> Blah”.



> Here's some text indented in the editor.

Here's some text not indented.



> Here's some text indented in the explanation.

Here's some text not indented.

Photo

The photo icon allows you to add a photo to your explanation.

NOTE All images must be original. Keep the height under 400 pixels.



REQUIRED: Write alt text here. This provides alternative information for an image if a user for some reason cannot view it (because of slow connection, an error in the src attribute, or if the user uses a screen reader). No Latex.

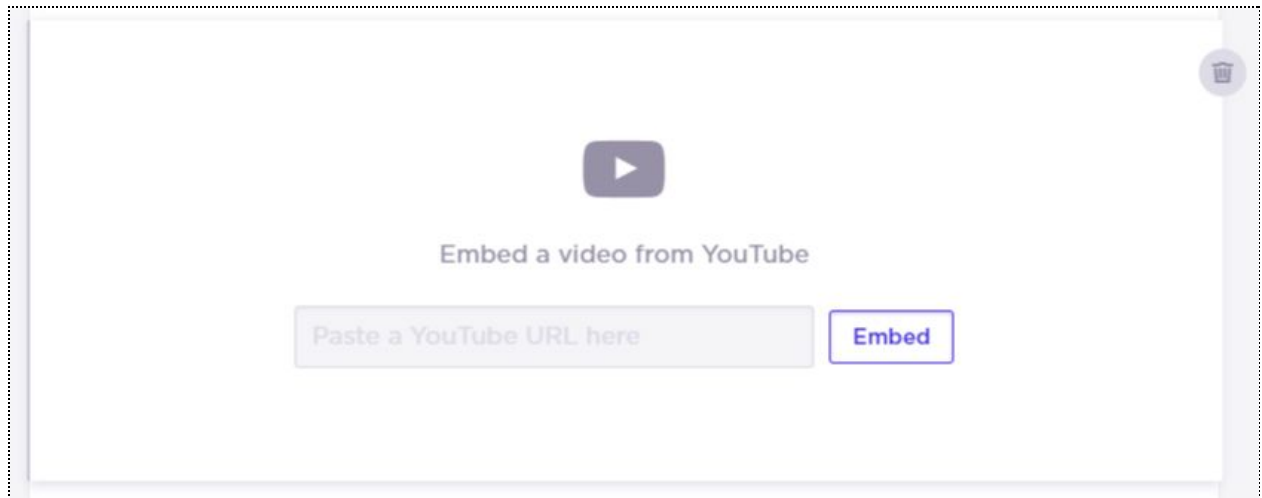
(Optional) Write a description here. This will be visible under the image as a caption.

Add alt text to all images you upload. Alt text is the text that appears if the image doesn't load. It's what helps search engines and people with visual imparities to know what the image contains. Describe the image in enough detail that someone who cannot see the image can understand its significance.

The optional text shows as a caption. This will appear below the photo in the explanation.

Video

The camera icon lets you embed a YouTube video into your explanation. You just need to paste the link and click on the “Embed” button.



NOTE All videos must be original creations.

Let's make a quick pitstop to talk about what's expected when you create your original video.

Expil Video Production Specifications

Content Quality

Lessons taught through videos must:

- Include accurate information
- Specifically address the intended topic
- Avoid simply working through problems or lecturing

We recognize the value in lecture style teaching. Many wonderful resources use this approach. We are looking for something different.

Production Quality

Video explanations should be recorded on an industry standard format. The explanation should provide quality service using lighting, sound, scenery, and editing to convey the film's message.

Specifications

The videos produced by or produced for Expil fall under the Youtube video and audio formatting specifications. See [Youtube Video and Audio Formatting](#).

X/O - Questions

This is the icon that allows you to write an [example problem](#). I will dive more into questions soon

Pause

The pause button puts a break in your explanation. The student will need to hit continue in order to see the rest of the explanation.

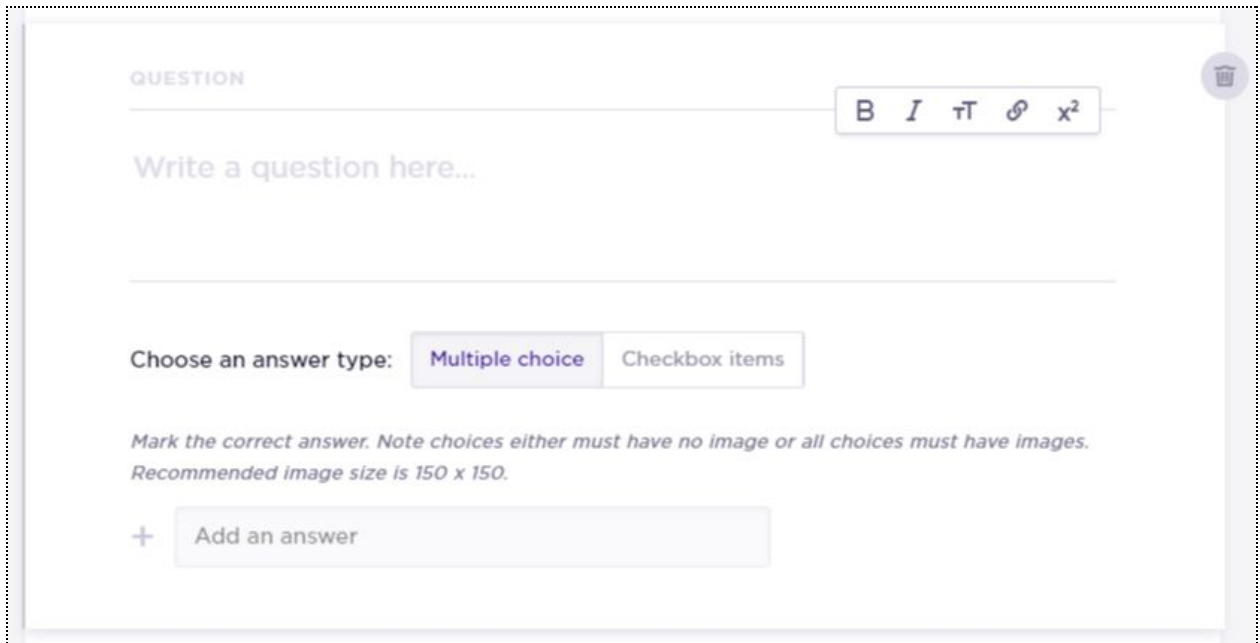


This can help break the information into sections.

Writing an Example Problem

Ok. You waited for it. We can talk about how to write a question.

When you click the X/O button, a question block appears.

A screenshot of a 'QUESTION' block in a light purple box. The box has a trash icon in the top right corner. Inside the box, the word 'QUESTION' is at the top left. Below it is a large text input area with the placeholder text 'Write a question here...'. To the right of the input area is a toolbar with icons for bold (B), italic (I), text color (T), link (chain), and superscript (x²). Below the input area, there is a section titled 'Choose an answer type:' with two buttons: 'Multiple choice' and 'Checkbox items'. Below this, there is a note: 'Mark the correct answer. Note choices either must have no image or all choices must have images. Recommended image size is 150 x 150.' At the bottom, there is a plus icon and a button labeled 'Add an answer'.

In the top right part of the question block, you'll find the same toolbar that you see when you create a [textbox](#).

Choose an answer type: Multiple choice Checkbox items

Mark the correct answer. Note choices either must have no image or all choices must have images. Recommended image size is 150 x 150.

☐	Answer 1 Feedback for this answer + Add image (optional)	☐ Correct
☐	Answer 2 Feedback for this answer + Add image (optional)	☐ Correct
☐	Answer 3 Feedback for this answer + Add image (optional)	☐ Correct
☐	Answer 4 Feedback for this answer + Add image (optional)	☐ Correct
☐	Add an answer	

First up, you can choose “Multiple choice” or “Checkbox items”. Multiple choice indicates only **one** of the listed answers is correct. Checkbox items indicate that **multiple** of the listed answers are correct. The student must select all of the correct answers in order to get the question right.

Next, write the answer choices in the “Answer #” fields. You can even use [LaTeX](#) to format your answer options. I encourage you to write constructive feedback for each answer option. Offer a hint for incorrect answer options.

NOTE Write a solution for all example problems. You can include a solution by adding a [textbox](#) below the problem.

Remember to indicate which answer option is correct! Simply click the “Correct” icon next to the correct answer or answers. The “Correct” icon will turn green.



Finally, notice you can add an image to each answer choice.

NOTE Images in answers MUST be 150 by 150 pixels.

LaTeX

We're finally here! This is my favorite part of writing explanations. LaTeX.

LaTeX is essentially a way to write “math” into a document. It allows you to make fractions, square roots, integrals, etc.

How to LaTeX

Using LaTeX is simple. You just need \$! That's right, using LaTeX requires cold, hard cash. Okay, that's a lie. It just requires the dollar sign key (**\$**).

To put something into LaTeX, type any text between dollar signs (\$blah\$).

Here's the number 3 in the editor.

Here's the LaTeX \$3\$ in the editor.

Here's the number 3 in the explanation.

Here's the LaTeX 3 in the explanation.

NOTE The LaTeX 3s look different from the regular 3s. Aren't they fancy?

\$ Versus \$\$

There are actually two ways of using LaTeX: one set of dollar signs or two sets of dollar signs.

One set of dollar signs (like we used [above](#)) puts the LaTeX on the same line as the text.

Two sets of dollar signs centers the LaTeX on its own line.

Here's the number 3 in the editor.

Here's the one dollar sign LaTeX 3 in the editor.

Here's the two dollar sign LaTeX 3 in the editor.

Here's the number 3 in the explanation.

Here's the one dollar sign LaTeX 3 in the explanation.

Here's the two dollar sign LaTeX

3

in the explanation.

NOTE Even though we wrote something in the same line as the double dollar signs, it will place everything between double dollar signs on its own centered line.

New Line

New year, new line. You can easily move LaTeX down to the next line by using two backslash symbols ($\backslash$).

$3x + y = 8$
 $4y + 3 = x$

$3x + y = 8$
 $4y + 3 = x$

LaTeX Dangers

One danger of using LaTeX is words. It doesn't like words. LaTeX assumed each letter is referring to a variable, so there will be no spaces and everything will look weird.

$\text{\$Here's some LaTeX words in the editor.\$}$

$\text{\textit{Here's some LaTeX words in the explanation.}}$

Beginners LaTeX

Superscript: x^2

Superscript is how to write exponents. It minimizes the symbol and places it to the top right of a variable. To make text superscript, type `^{ }`.

`$$x^{2}$$`

$$x^2$$

Subscript: x_2

Subscript is when a symbol goes to the bottom right of a variable. To make text subscript, type `_{ }`.

`$$x_{2}$$`

$$x_2$$

Fractions

To write fraction, type `\frac{ }{ }`. The first set of curly brackets is the numerator, and the second set is the denominator.

`$$\frac{3}{17}$$`

$$\frac{3}{17}$$

Roots

There are two versions for roots. First is the **square root**, which is `\sqrt{ }`.

`$$\sqrt{x}$$`

$$\sqrt{x}$$

The other version is the **nth root**. Which can be a cubed root or a fourth root, et cetera. Use `\sqrt[ ]{ }` with the nth root in the square brackets.

`$$\sqrt[3]{x}$$`

$$\sqrt[3]{x}$$

Symbols

Name	Symbol	LaTeX
Division	$\div$	<code>\div</code>
Multiplication x	$\times$	<code>\times</code>
Multiplication dot	$\cdot$	<code>\cdot</code>
Less than or equal to	$\leq$	<code>\leq</code>
Greater than or equal to	$\geq$	<code>\geq</code>
Plus or minus	$\pm$	<code>\pm</code>
Approximately	$\approx$	<code>\approx</code>
Not equal to	$\neq$	<code>\neq</code>
Infinity	∞	<code>\infty</code>
Pi	π	<code>\pi</code>
Degree	$^{\circ}$	<code>\circ</code>
Tab		<code>\quad</code>

Trig and Logs

If you use logs or trig functions in LaTeX it can look a little weird.

$\cos(2x)$

It's not the worst, but it's not the best. To fix this, we put a slash in front of the function types.

`\log`

`\ln`

`\cos`

`\sin`

`\tan`

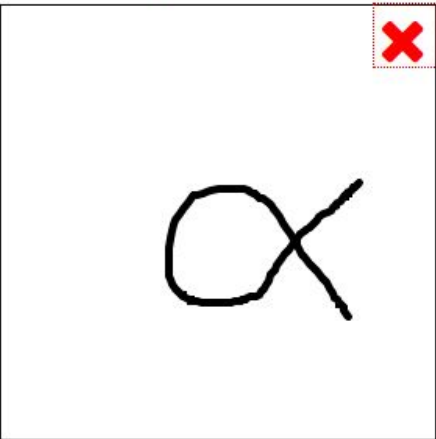
$\cos(2x)$

$$\cos(2x)$$

Detexify

Don't know how to make your favorite symbol in LaTeX? Don't fear! Use the wonderful site [Detexify](https://detexify.kshmn.de/) to draw the symbol.

Detexify
classify
symbols



Want a Mac app?

Lucky you. The Mac app is finally stable enough. See how it works on [Vimeo](#). Download the latest version [here](#).

Restriction: In addition to the LaTeX command the unlicensed version will copy a reminder to purchase a license to the clipboard when you select a symbol.

	Score: 0.1009120516605806 <u>\propto</u> mathmode	command to use
	Score: 0.14892953219622926 \alpha mathmode	
	Score: 0.15420517470459966 <u>\usepackage{ amssymb }</u> <u>\varpropto</u> mathmode	how to know if it needs a package
	Score: 0.2123015344199525 <u>\usepackage{ amssymb }</u> \curvearrowleft mathmode	
	Score: 0.2179725987674655 <u>\usepackage{ amssymb }</u> \ltimes mathmode	

NOTE Unfortunately, some LaTeX requires additional packages to be installed first. This can't be done on the site, so we can't use those symbols.

Advanced LaTeX

So you've mastered the basics of LaTeX. Now, let's dive into the fun formatting and boxing that you can do!

Aligning

Aligning is by far the most useful tool. It allows you to line up equations. To do this, you need to have a "begin" command and an "end" command. This is basically the skeleton:

```
$$\begin{align}  
  
\end{align}$$
```

The formatting style you want to use goes inside the curly brackets {}.

Once you have the skeleton, you can start write whatever you want to align. We use the ampersand(&) key to tell the code where we want the aligning to occur. Each new line must be separated by double backslashes (\\).

Here are two equations being aligned at the equal sign.

```
$$\begin{align}  
x+y&=3\\  
23x+4y&=9  
\end{align}$$
```

$$\begin{aligned}x + y &= 3 \\ 23x + 4y &= 9\end{aligned}$$

Cases/Piecewise

You can use cases to make a piecewise function or a system of equations. The command is similar to align, but we don't use the & and we write "cases" instead of align.

```
$$\begin{cases}  
x+y=3\\  
23x+4y=9  
\end{cases}$$
```

$$\begin{cases} x + y = 3 \\ 23x + 4y = 9 \end{cases}$$

Want to add conditions to your piecewise function? You can also use the **&** key to add conditions to the piecewise function. Below is the same function as above, but now the conditions indicate which equation includes positive x and which equation includes negative x .

```


$$\begin{cases} x + y = 3 & x > 0 \\ 23x + 4y = 9 & x < 0 \end{cases}$$


```

$$\begin{cases} x + y = 3 & x > 0 \\ 23x + 4y = 9 & x < 0 \end{cases}$$

Matrices

To make a matrix, we will use the “bmatrix” command.

```


$$\begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{bmatrix}$$


```

The first line of this (1&2&3) is the first row of the matrix. Every **&** moves you to the next cell. To move down to the next row, you just start a new line using ****.

$$\begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{bmatrix}$$

Arrays and Tables

You can do a lot with arrays, but the commands can get tricky. To make a table or array, use the “array” command. I’ll start with sample code, then explain what everything does.

```
$$\begin{array}{|r|c|c|c|}  
\hline  
\text{Input:}&1&2&3\\  
\hline  
\text{Output:}&4&5&6\\  
\hline  
\end{array}$$
```

Input:	1	2	3
Output:	4	5	6

The first new piece is `{|r|c|c|c|}`. This refers to the layout of the columns. Each pipe symbol (`|`) adds a black line to divide the columns. The letters, which can be **l**, **r**, or **c**, are how you want the column to be aligned.

- **l**: left align
- **r**: right align
- **c**: center align

NOTE Be careful not to mix up the lowercase L and the pipe: **l** and **|** look similar.

We then have `\hline`, which is a horizontal line. This is used to make lines before and after each row.

Finally, like with matrices, each cell is separated by `&`. To move to the next row, we start a new line with `\\`.

Boxed

You can put things in a box! This command is `\boxed{ }`.

```
$$\boxed{607}$$
```

607

Strikethrough

This lets you put a big ol' slash through whatever you want. This can be helpful when showing variables canceling. The command is `\cancel{ }`.

$$4x + \cancel{6y} = 8$$

$$4x + \cancel{6y} = 8$$

Lines

You can also place lines above or below LaTeX. The commands are `\overline{ }` and `\underline{ }` respectively. The `\quad` is just a way to tab so terms appear spaced out.

$$\overline{4x} \quad \underline{8y}$$

$$\overline{4x} \quad \underline{8y}$$

Phantom

My favorite command, and I think one of the most useful, is `\phantom{ }`. Whatever you write inside the `{ }` will display it invisibly.

The best trick, is to combine it with the `\underline` command to make a fill-in-the-blank line.

To turn 8 into 19, we need to add $\underline{}$

To turn 8 into 19, we need to add ____

There you have it! That's everything you need to know about the techniques of writing explanations for ExpII. Feel welcome to email us at contribute@expII.com

Your Contributor Collaborator,

Alex