

A Guide to
Building Math Items
in DataMate™ Elite



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1 Fractions

Sample A

Question

Nancy's room is $10\frac{1}{2}$ feet long and $7\frac{1}{2}$ feet wide. What is the area of Nancy's room?

☐ A $78\frac{3}{4}$ sq.ft.  Wrong

☐ B $70\frac{1}{4}$ sq.ft.  Wrong

☐ C 71 sq.ft.  Wrong

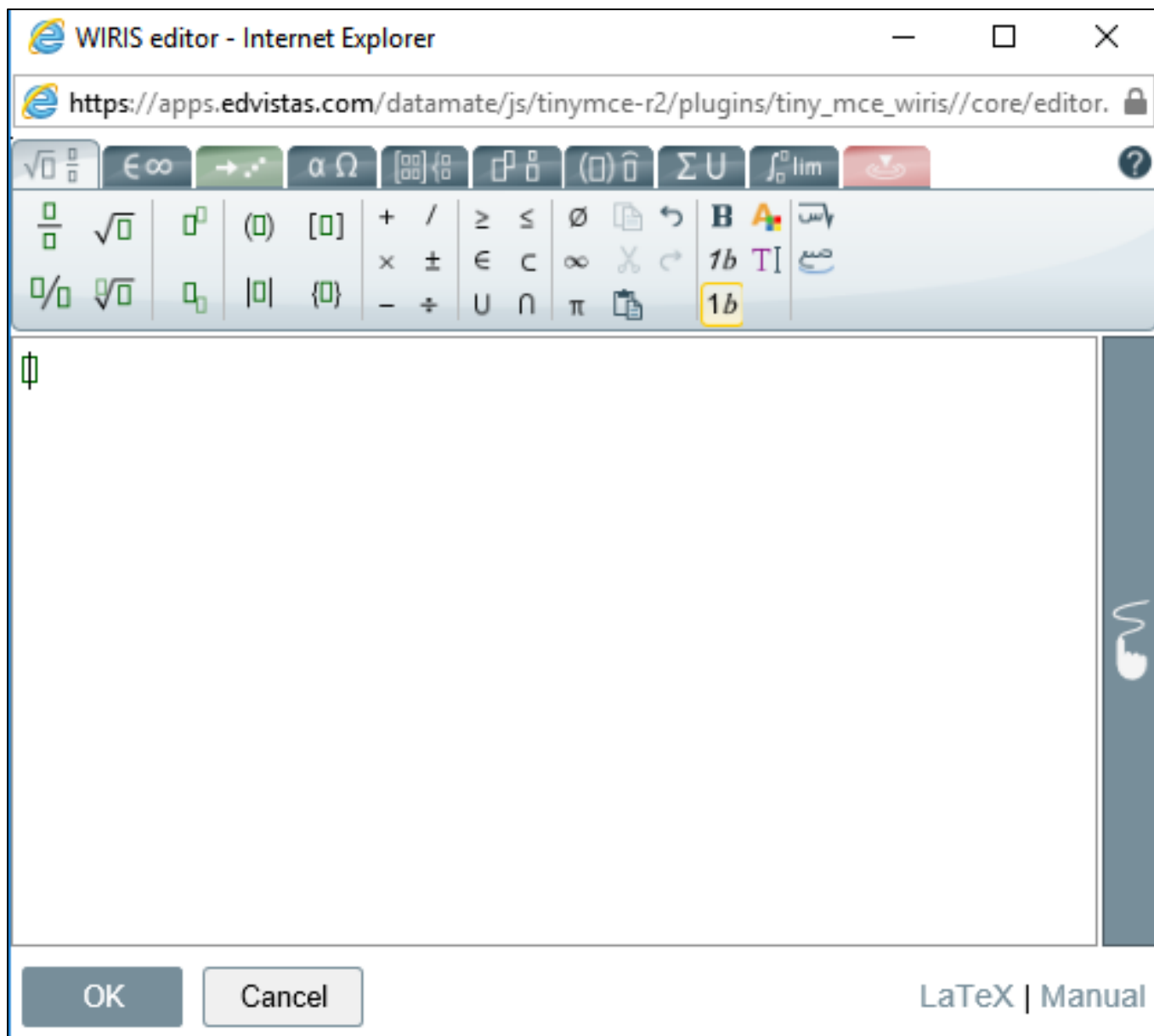
☐ D 18 sq.ft.  Wrong

☐ Come back later

To create fractions and other math equations in DataMate Elite, you will utilize the **WIRIS editor**. This tool works similar to MathType or Microsoft Equation. The **WIRIS editor** is located on the question creation window on the upper right side.

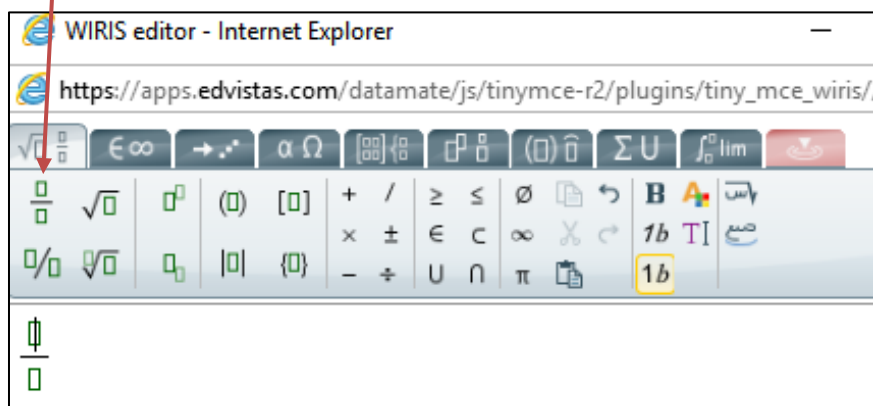
[illegible]

Clicking on the **WIRIS editor**  will open the following pop-up window:



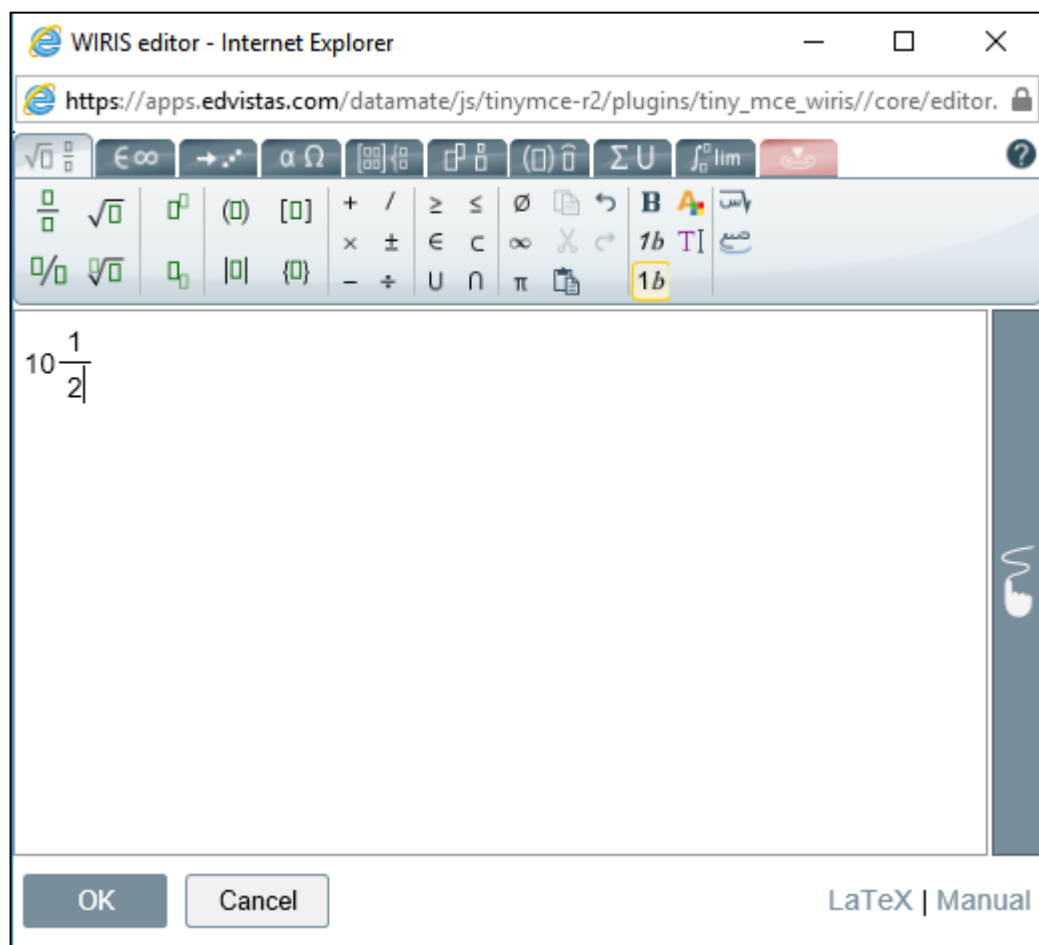
To create a fraction, click on the fraction symbol .

This will create the fraction template for you to create your fraction. To create a mixed number such as shown in **Sample A** click with your cursor in front of the fraction template and enter the number 10. Then, click within the numerator box and enter a 1. Then, click within the



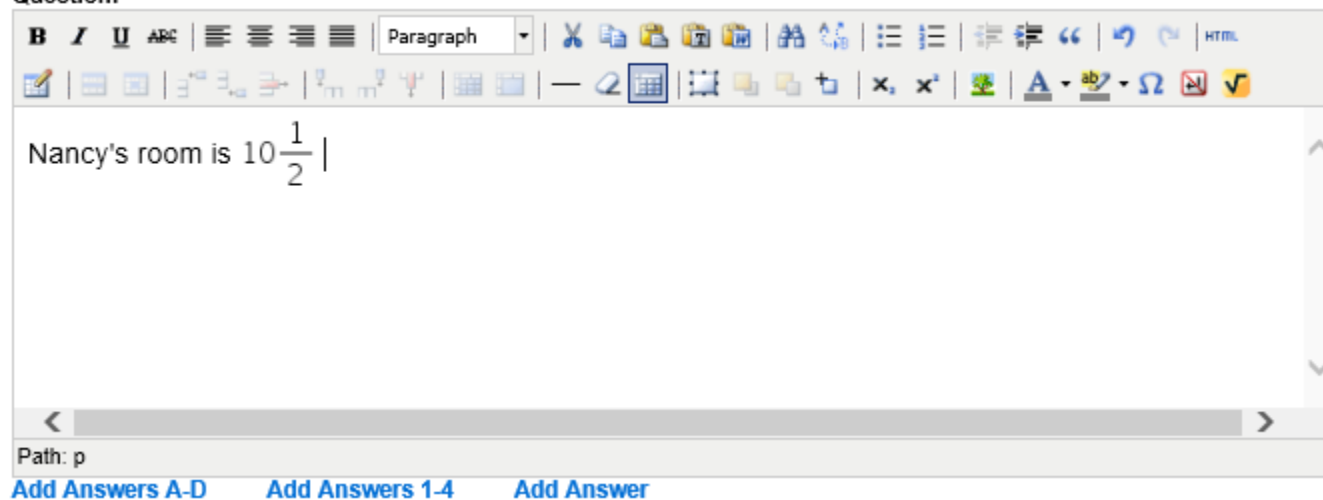
denominator box and enter a 2.

See the completed mixed number from **Sample A** below.



Click **OK** to add the fraction to your question.

Question:



Type regular text and numbers within the DataMate Question editor and use the **WIRIS editor** to add mixed numbers, proper or improper fractions to Fraction problems.

The same concept applies to creating your answer choices. At the bottom of the Question editor, click on **Add Answers A-D** or **Add Answers 1-4** depending on your desired answer choices. Four boxes will appear:

A :

Path:

B :

Path:

C :

Path:

D :

Path:

[Add Answers A-D](#) [Add Answers 1-4](#) [Add Answer](#) [Remove Answer](#)

Each answer choice has its own editor box that in turn have the **WIRIS editor**  built in for each separate answer choice, as shown above.

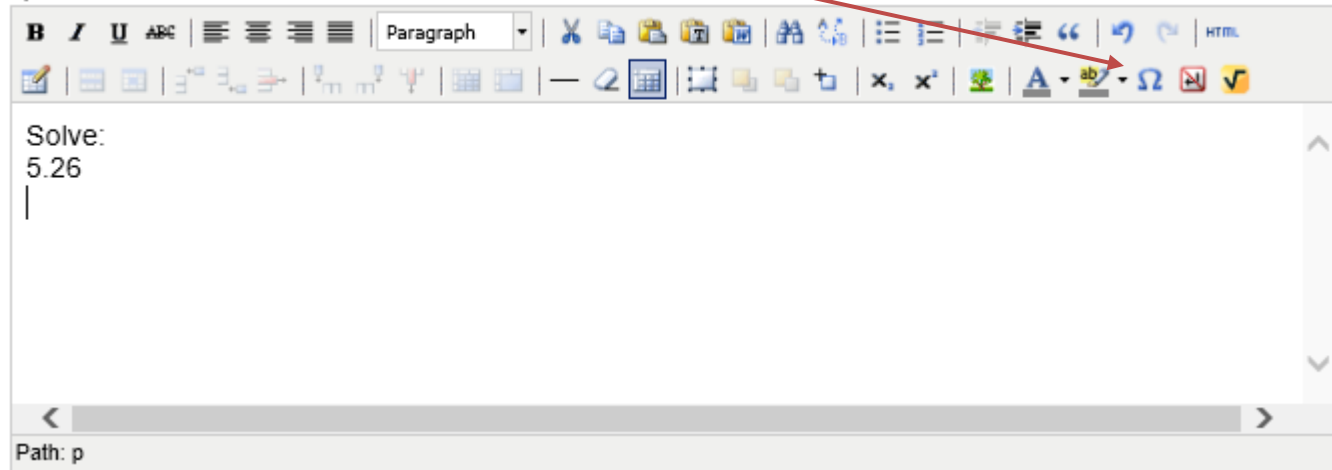
Continue to the bottom of your page to ensure that everything looks correct and then hit the  button.

Enter so that you will be typing in the line below where you typed **Solve:** Here you will type **5.26** and **Enter** again. So far your problem should look like this:

Solve:
5.26
|

Click on the horseshoe-like symbol  at the top right of your chart.

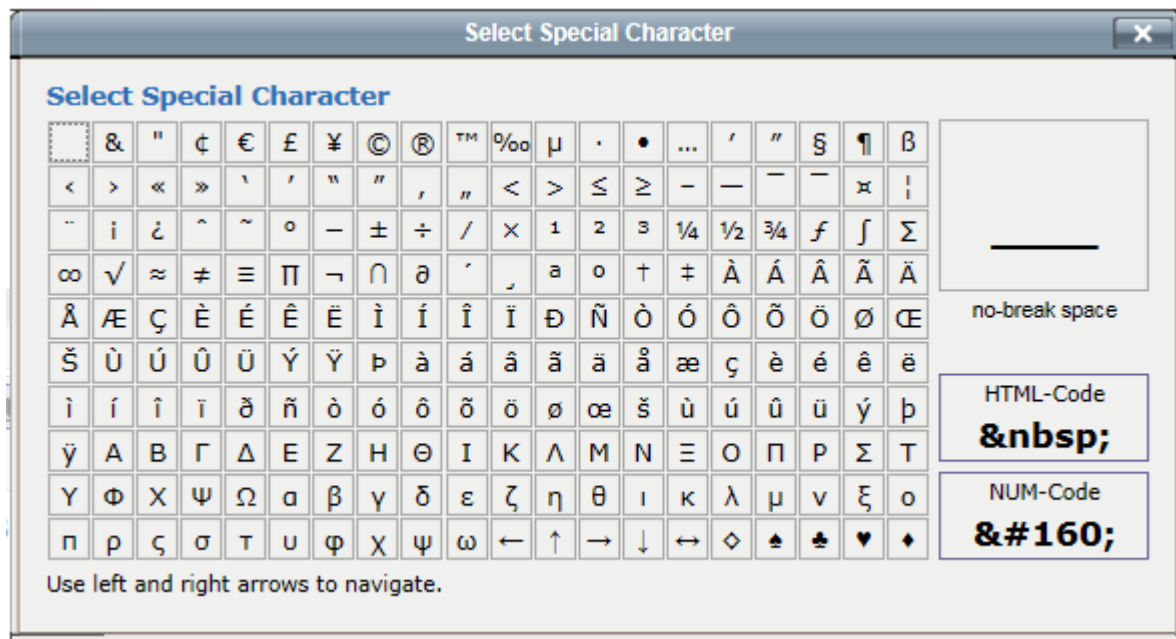
Question:



Solve:
5.26
|

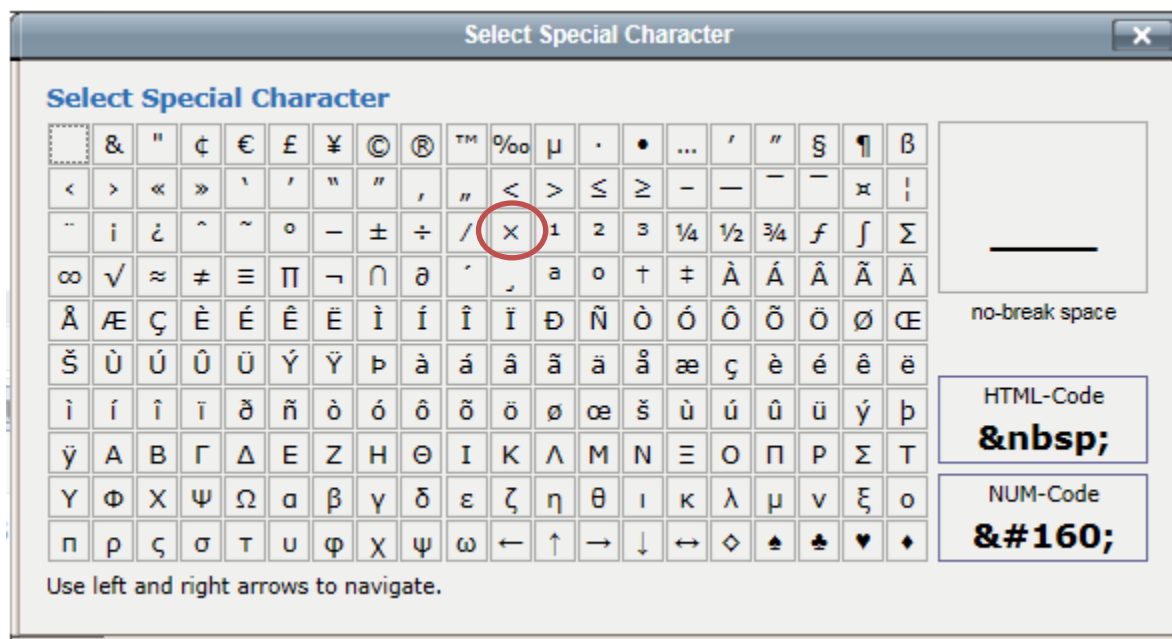
Path: p

A Special Character box will appear:



This box is where you will find a lot of the characters that you need for your math problems. You have division symbols, degree signs, pluses, pi symbols, arrows, etc. It even tells you the HTML code!

For the problem in **Sample B**, you will only select the multiplication symbol on the third row.



Once you have clicked the multiplication symbol, your problem should look like this:

$$\begin{array}{r} \text{Solve:} \\ 5.26 \\ \times \\ \hline \end{array}$$

Next to the multiplication sign you will type a space followed by “.67”.

Select $\times .67$ and underline it.

Select the entire problem.

$$\begin{array}{r} 5.26 \\ \times .67 \\ \hline \end{array}$$

Select the “indent” option  located at the top right corner of your chart. Click it twice. You will notice that the problem becomes indented.

Question:



Now you can continue on to enter the answer options. At the bottom of the Question editor, click on **Add Answers A-D** or **Add Answers 1-4** depending on your desired answer choices. Four boxes will appear. In each box you are going to enter an answer option.

You have completed your first multiplication problem! You can utilize these steps for other problems (addition, subtraction, etc.).

Continue to the bottom of your page to ensure that everything looks correct and then hit the Save button.

3 Problems with Pictures

Sample C

Question

Jan kept track of the number of goals her team scored in each of their games for one season. The results are shown in the line plot below.

NUMBER OF GOALS SCORED BY GAME

Goals	Number of Games
0	2
1	3
2	2
3	2
4	3

In how many games did the team score more than 2 goals?

☐ A 7

☐ B 8

☐ C 9

☐ D 15

Wrong

Wrong

Wrong

Wrong

☐ Come back later

In the text box, type “Jan kept track of the number of goals her team scored in each of their games for one season. The results are shown in the line plot below.”

Above the text box, you will see a bar where you will upload your image. Select **Browse** and find your picture to insert. You will then see your picture appear.

Images to be embedded in question or answers:

Choose Image: [Browse...](#) [Upload Image](#)

NUMBER OF GOALS SCORED BY GAME



URL: ../datafiles/questionbuilder/questionimages/8a5d5a1c-7cd6-458e-a23f-61df5dbd4d1d.P
Delete
Insert Image in: [Question](#) [Answer A](#) [Answer B](#) [Answer C](#) [Answer D](#)

Question:

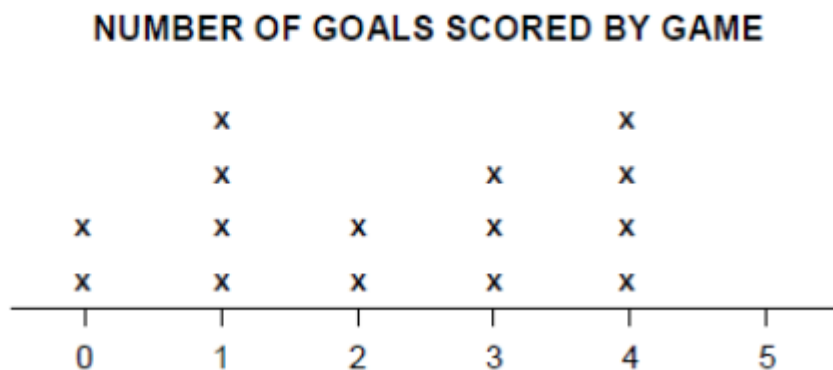
B **I** **U** **ABC** | **Paragraph** | 

Jan kept track of the number of goals her team scored in each of their games for one season. The results are shown in the line plot below.

Select the end of your sentence and **Enter** twice. In the space immediately below your sentence, you are going to insert your picture.

Next to the photo, you will see a selection that reads **Insert Image in: Question**. Click on **Question**.

results are shown in the line plot below.



In the space below the picture, type the rest of your problem. (“In how many games did the team score more than 2 goals?”)

At the bottom of the Question editor, click on **Add Answers A-D** or **Add Answers 1-4** depending on your desired answer choices. Four boxes will appear. In each box you are going to enter an answer option. You have

completed your problem! You can utilize these steps for other problems containing graphs, pictures, charts etc.

Continue to the bottom of your page to ensure that everything looks correct and then hit the Save button.

4 Inserting Charts

Sample D

Question

The table below shows the prices the Alpine Ski Shop charges for snowboarding supplies.

Bindings	\$94.14
Helmet	\$77.78
Goggles	\$41.51
Snowboard	\$217.93
Boots	\$113.89

Ian decides to buy a snowboard, helmet and goggles. How much will Ian spend?

Show your work.

Answer: \$ _____

By now you know how to write basic problems in the text box. After you do this, be sure there are multiple empty lines between the two sentences.

The table below shows the prices the Alpine Ski Shop charges for snowboarding supplies.

Ian decides to buy a snowboard, helmet and goggles. How much will Ian spend?

Show your work.

Path: p

In the space between sentences, you are going to create your chart. On the top left of the toolbar, click on the chart sign  .

Question:



Path:

[Add Answers A-D](#) [Add Answers 1-4](#) [Add Answer](#)

You will now see the **Insert/Edit Table** box.

Insert/Edit Table

General Advanced

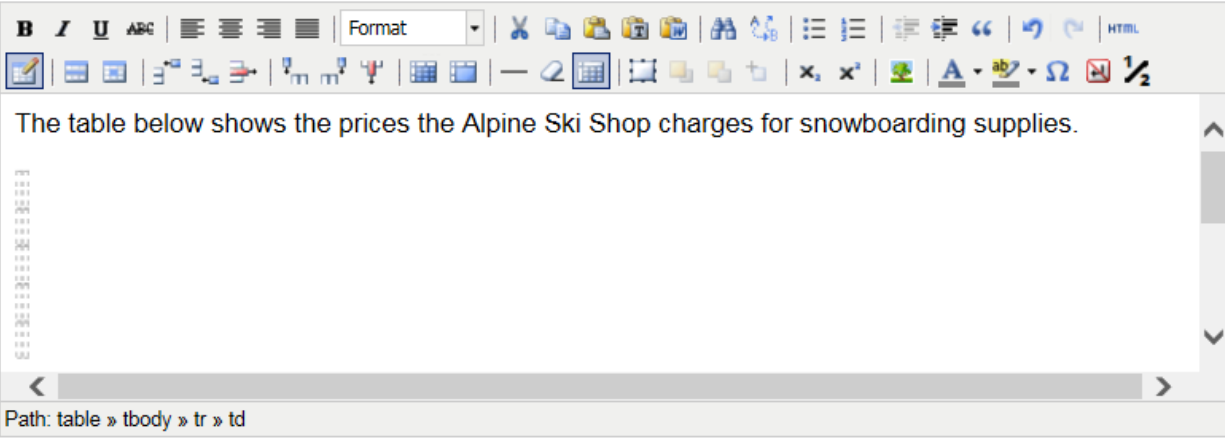
General Properties

Columns	2	Rows	2
Cell Padding		Cell Spacing	
Alignment	-- Not Set --	Border	0
Width		Height	
Class	-- Not Set --		
Table Caption	☐		

Insert Cancel

Type the amount of **Columns** (2) and **Rows** (5) you need, then click **Insert**.

Question:



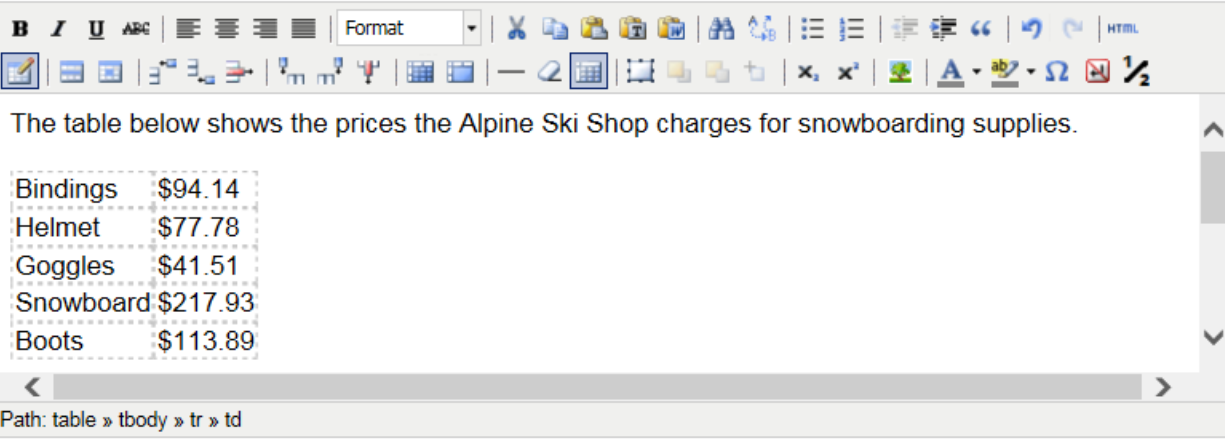
The table below shows the prices the Alpine Ski Shop charges for snowboarding supplies.

Path: table » tbody » tr » td

[Add Answers A-D](#) [Add Answer](#)

In each box, you will enter the following information:

Question:



The table below shows the prices the Alpine Ski Shop charges for snowboarding supplies.

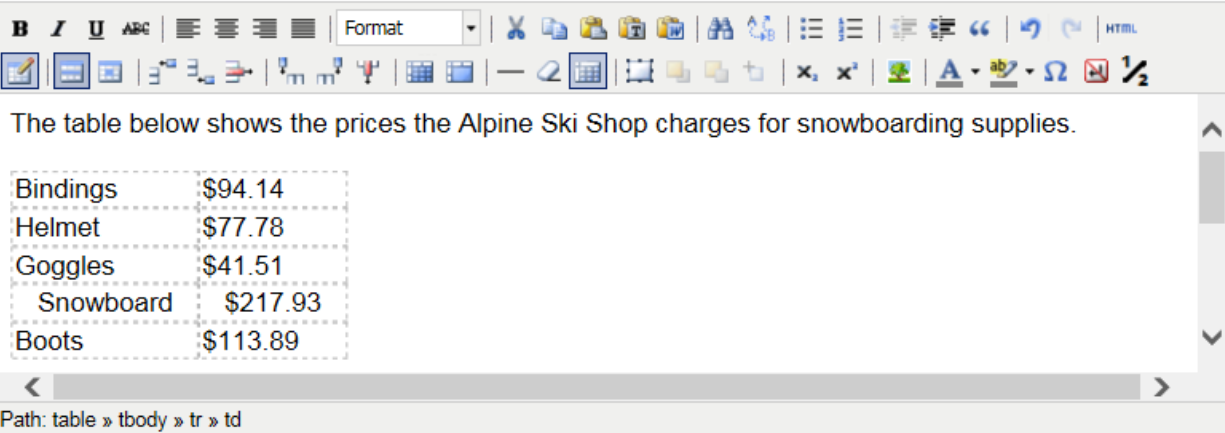
Bindings	\$94.14
Helmet	\$77.78
Goggles	\$41.51
Snowboard	\$217.93
Boots	\$113.89

Path: table » tbody » tr » td

[Add Answers A-D](#) [Add Answer](#)

You will notice that the boxes are close together. Here you are going to click at the end of the word **“Snowboard”** (where the column ends) and enter 2 to 3 spaces. Do the same at the beginning of the word. Repeat for the **“\$217.93”** option. It should now look like this:

Question:



The table below shows the prices the Alpine Ski Shop charges for snowboarding supplies.

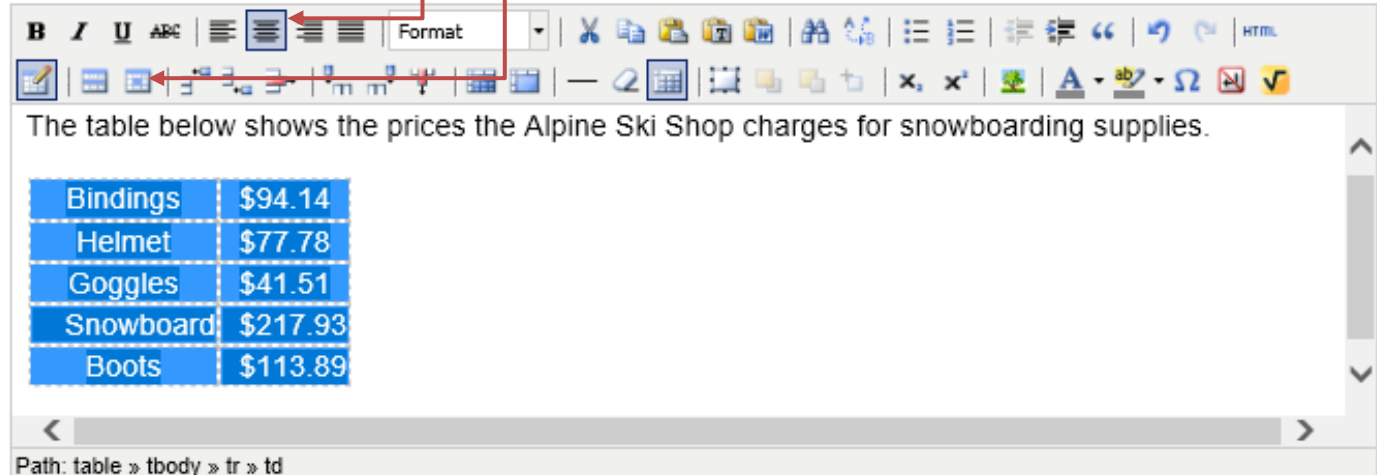
Bindings	\$94.14
Helmet	\$77.78
Goggles	\$41.51
Snowboard	\$217.93
Boots	\$113.89

Path: table » tbody » tr » td

[Add Answers A-D](#) [Add Answer](#)

Select the entire chart and center it . Then select the chart again by highlighting the cells. At the top left corner, underneath the underline option, click on the table option . This will open the **Table Cell Properties**.

Question:

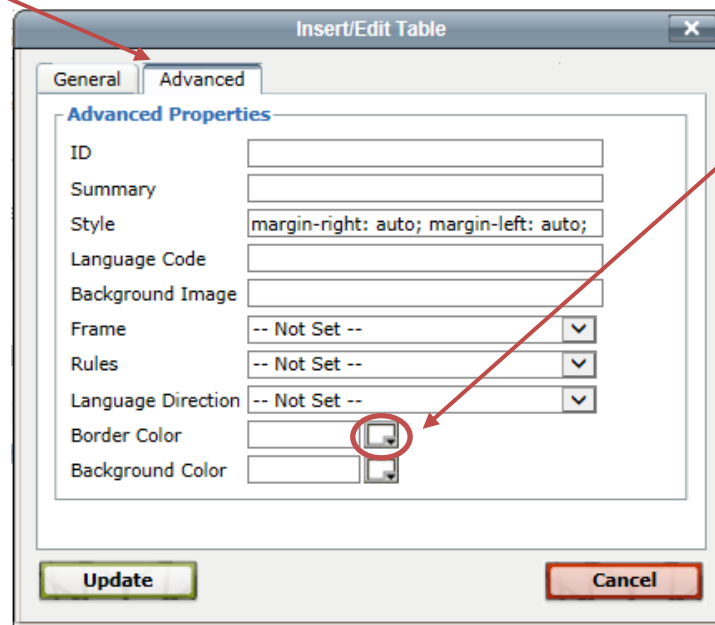


The table below shows the prices the Alpine Ski Shop charges for snowboarding supplies.

Bindings	\$94.14
Helmet	\$77.78
Goggles	\$41.51
Snowboard	\$217.93
Boots	\$113.89

Path: table » tbody » tr » td

Select the **Advanced** tab and at the bottom of the table, select the small square  at the end of **Border Color**.



Insert/Edit Table

General Advanced

Advanced Properties

ID

Summary

Style

Language Code

Background Image

Frame

Rules

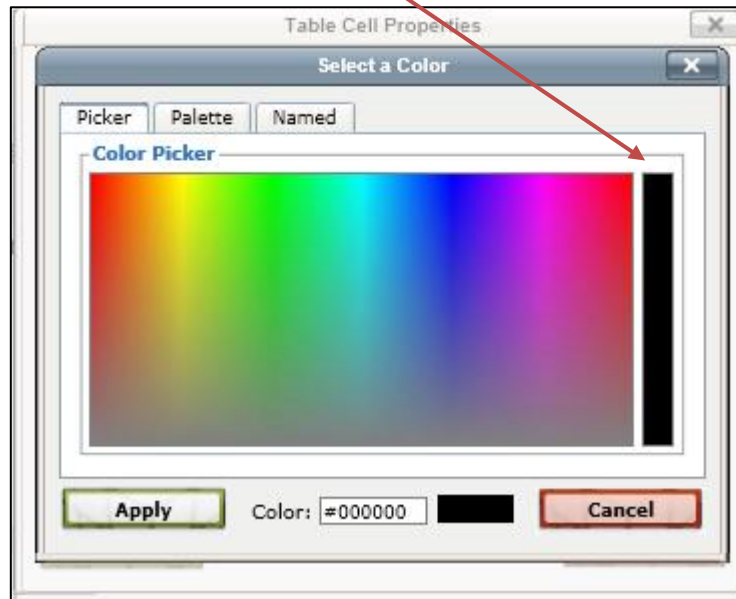
Language Direction

Border Color

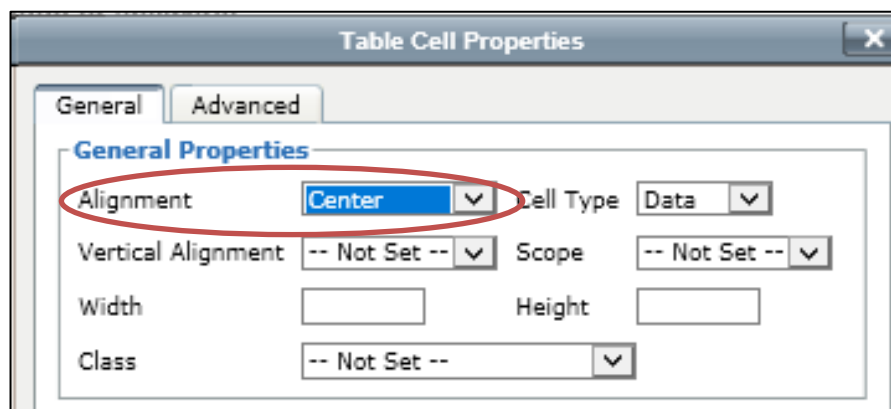
Background Color

Update Cancel

On the **Color Picker** click anywhere on the black bar and then click **Apply** .



Select the **General** tab. Under **Alignment** select the **Center** option. Then click **Update** .



Your chart should now look like this:

Question:

The screenshot shows a web editor interface with a table containing the following data:

Bindings	\$94.14
Helmet	\$77.78
Goggles	\$41.51
Snowboard	\$217.93
Boots	\$113.89

Path: table » tbody » tr » td

[Add Answers A-D](#) [Add Answer](#)

Now select **only** the left column and select the **Align left** option.



Bindings	\$94.14
Helmet	\$77.78
Goggles	\$41.51
Snowboard	\$217.93
Boots	\$113.89

At the bottom of the Question editor, click on **Add Answers A-D** or **Add Answers 1-4** depending on your desired answer choices. Four boxes will appear. In each box you are going to enter an answer option.

You have completed your chart! You can utilize these steps for other problems with charts.

Continue to the bottom of your page to ensure that everything looks correct and then hit the  button.

Something to note: The quality of **creating** a chart with the Question editor will be significantly better / cleaner than inserting an image of the same chart. If you can, to the best of your ability, replicate something by using the effects in the tool bar/text box. We recommend doing so.

5 Charts with Pictures

Sample E

Question

$10^3 \times \square = 3,000$

☐ A 3

☐ B 30

☐ C 300

☐ D 3,000

☒ Wrong

☒ Wrong

☒ Wrong

☒ Wrong

☐ Come back later

First, you are going to create a chart. Click on the **Table** option . Under **Columns**, enter “3” and under **Rows**, enter “1.” Then click **Insert**.

Insert/Edit Table

General

Advanced

General Properties

Columns

3

Rows

1

Cell Padding

Cell Spacing

Alignment

-- Not Set --

Border

0

Width

Height

Class

-- Not Set --

Table Caption

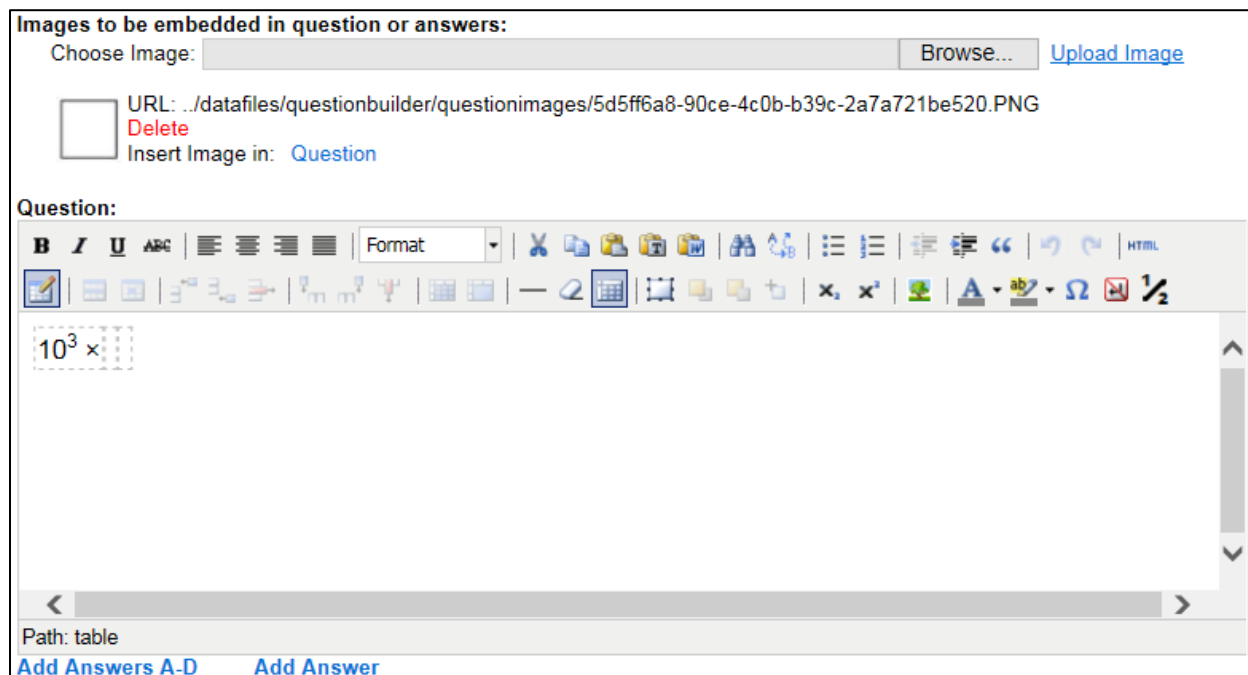
☐

Insert

Cancel

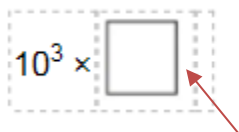
In the far left box, enter “ $10^3 \times$ ”.

Above the text box, you will see a bar where you will upload your image. Select **Browse** and find your picture to insert. You will then see your picture appear.



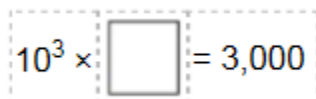
Click on the middle box in your chart.

Next to your photo, you will see a selection that reads **Insert Image in: Question**. Click on **Question**.



To the immediate right of the box you will notice there is an extra space. Delete it.

You may then continue to enter the rest of your question in the last box of your chart.



Now you can continue on to enter the answer options. At the bottom of the Question editor, click on **Add Answers A-D** or **Add Answers 1-4** depending on your desired answer choices. Four boxes will appear. In each box you are going to enter an answer option.

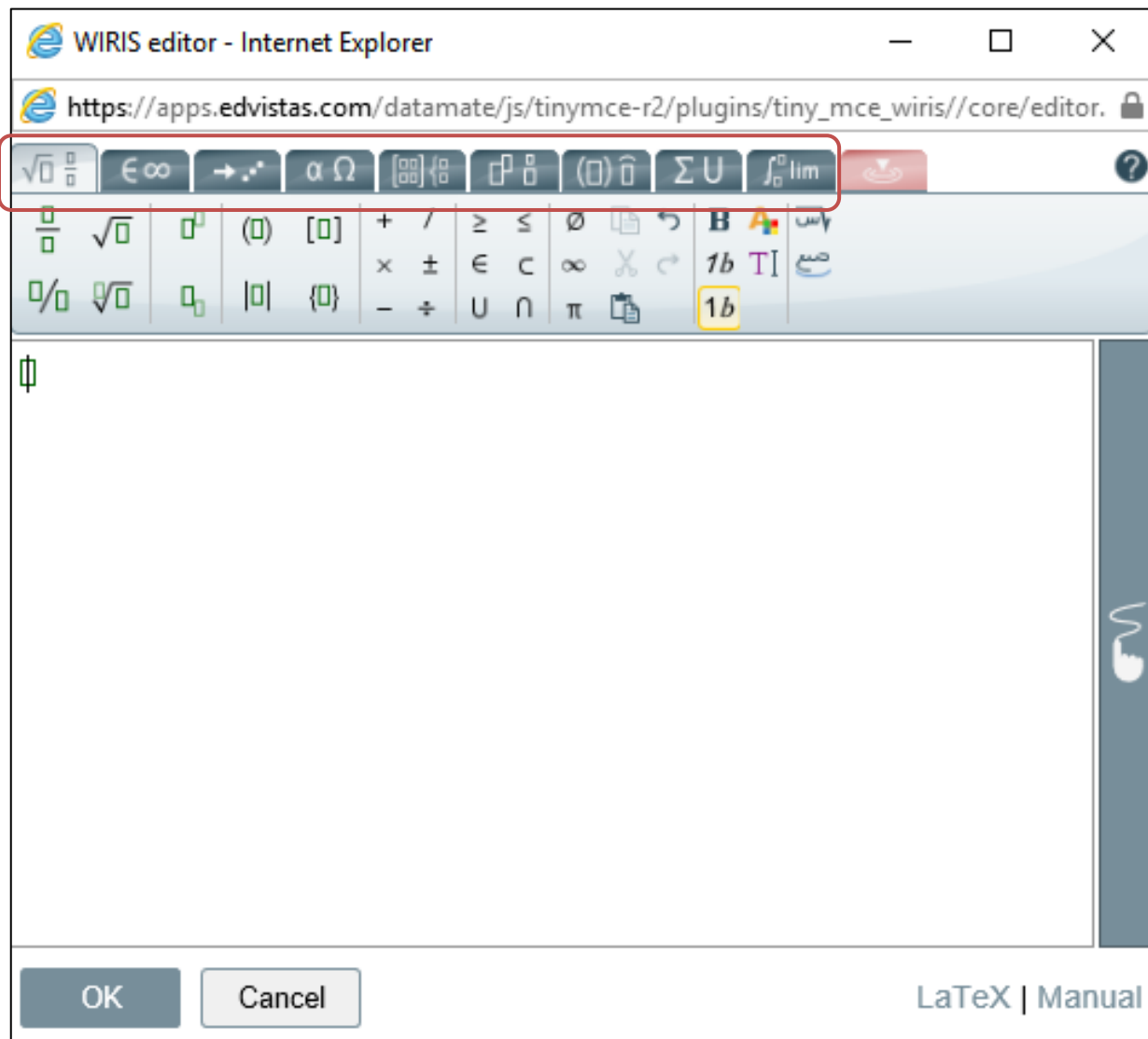
You have completed your problem! You can utilize these steps for other problems that include squares, circles, or other geometrical figures within a problem

Continue to the bottom of your page to ensure that everything looks correct and then hit the **Save** button.

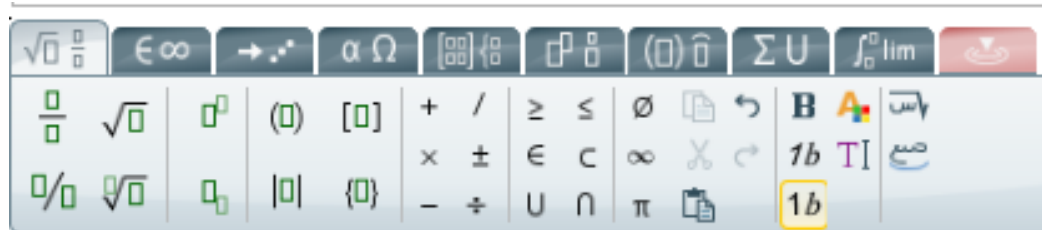
6 WIRIS Editor Overview

As seen in **Sample A**, the WIRIS editor can be used to create fractions. However, similar to Microsoft Word extensions such as MathType, it can help create a lot of other math equations and symbols!

Below is the WIRIS editor pop-up window as it first appears. The following pages will take you through all **nine main tabs**.



1) The General tab



In the General Tab, you may create equations that include:

- Fractions, mixed numbers, beveled fractions and (square) roots
- Super- and sub-scripts
- Parentheses, brackets, vertical bars, and curly brackets
- Standard mathematical signs such as +, -, $\times$, $\div$, the Pi and Infinity symbols etc.

2) The Symbols tab



In the Symbols Tab, you may create equations that include:

- Standard mathematical signs such as +, -, $\times$, $\div$, the Pi and Infinity symbols etc.
- Other mathematical symbols such as Greater Than, Lesser Than, Identical To, Subset Of, Superset Of, Angles, Parallel To, Squares, Circles etc.

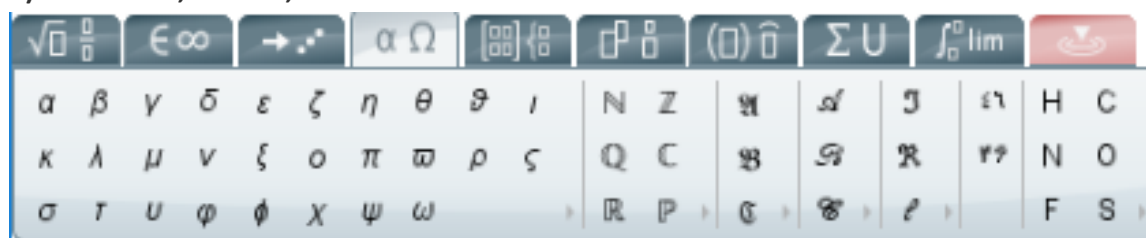
3) The Arrows tab



In the Arrows Tab, you may create equations that include:

- Most types of arrows, ellipses, and dashes
- Numbers containing super- or subscripted arrows or dashes

4) The Greek, Letters, and Numbers tab



In the Greek, Letters, and Numbers Tab, you may create equations that include:

- Common Greek letters used in mathematics
- Symbols for Numbers such Natural, Real, Rational, Integer, etc.
- Fraktur Capitals, Script Capitals, etc.
- Chemical Symbols such as Hydrogen, Carbon, Nitrogen, etc.

5) The Matrices and Elementary tab



In the Matrices and Elementary Tab, you may create equations that include:

- Matrices with brackets, parentheses, or vertical bars
- Tables
- Multiple Column/Row numbers with or without brackets/parentheses
- Ellipses

6) The Scripts and Layout tab



In the Scripts and Layout Tab, you may create equations that include:

- Big or Small Fractions
- (Square) Roots
- Superscript, Subscript, and Super/Subscript Numbers
- Elements under or over Numbers
- Big Operators with super- and/or subscripts

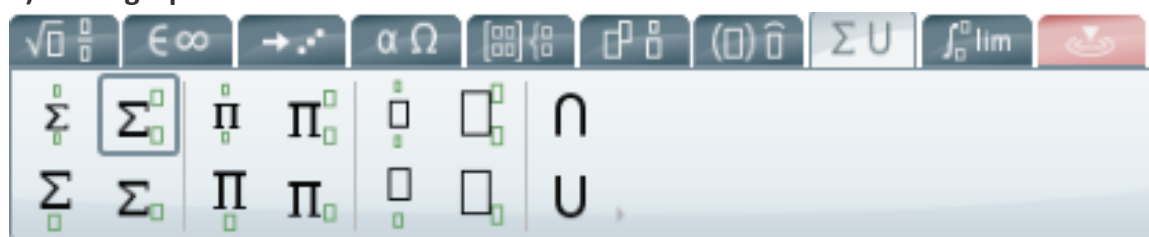
7) The Decorations tab



In the Decorations Tab, you may create equations that include:

- Different type brackets or bars
- Accents
- Enclosures
- Strike-Outs or Strike-Throughs

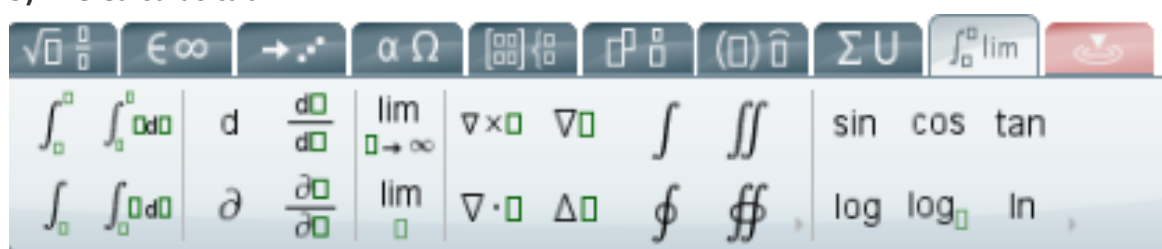
8) The Big Operators tab



In the Big Operators Tab, you may create equations that include:

- the Summation Symbol (with superscript, subscript, and under/over)
- the Product symbol (with superscript, subscript, and under/over)
- Big Operators (with superscript, subscript, and under/over)
- the Intersection and/or Union symbols

9) The Calculus tab



In the Calculus Tab, you may create equations that include:

- Integrals
- Differentials
- Limit symbol
- Curl, Divergence, Gradient, Laplacian
- sin, cos, tan, log, and ln