

***nKalc* Calculation Editor
User Manual (v1.0)**

Dark Valley Software

Welcome to the nKalc Calculation Editor

nKalc is all about simplicity!

The nKalc calculation editor is an affordable application which allows the user to write and solve complex engineering calculations within a rich text editor environment.

Create clear and concise custom calculations which are much easier to check and validate than either hand-written calculations or spreadsheets. Create calculations which can be easily updated and extended, or re-used on a new project.

Some key features,

- nKalc only requires text to work, there are no intricacies required to create statements or results, just text.
- write the expressions and nKalc will provide the results.
- easily format calculation text and results to your preference using the editor's powerful automatic formatting features.
- highlight text such as variables, units, and more to aid inspection of the calculation.
- should a calculation fail, the editor will pin-point the exact equation which has failed, avoiding a lengthy search for errors.

For a detailed example of a reinforced concrete beam design, created with nKalc, check www.darkvalleysoftware.com

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Menus

The calculation editor environment contains a top menubar, various toolbars and a right-click context menu. All of the functions of the various toolbars can be found in either the top menu or the context menu. The context menu has exactly the same functionality and layout as the top menubar in order to provide the user with full control when a windowless environment is preferred.

File menu

- Open...** - open a file (*shortcut key Ctrl + O*)
- editor can open file types *.klc*, *.txt*, or *.html* if created with the calculation editor)
- New** - create a new instance of the editor (*shortcut key Ctrl + N*)
- Open Recent** - open a recent file from the provided list
- Close** - close the current file (*shortcut key Ctrl + W*)
- Save** - save the current file (*shortcut key Ctrl + S*)
- Save As...** - save the current file as a new save (*shortcut key Ctrl + Shift + S*)
- files can be saved as *.klc*, *.txt*, or *.html*
- Reload** - reload the current file (*shortcut key F5*)
- Print to pdf...** - export the current file as a pdf file (*shortcut key Ctrl + P*)
- Exit** - quit the program (*shortcut key Ctrl + Q*)

Edit menu

- Undo** - undo last action (*shortcut key Ctrl + Z*)
- Redo** - redo last action which was undone (*shortcut key Ctrl + Shift + Z*)
- Cut** - cut selection (*shortcut key Ctrl + X*)
- Copy** - copy selection (*shortcut key Ctrl + C*)
- Paste** - paste selection from clipboard (*shortcut key Ctrl + V*)
- Select All** - select all text and images (*shortcut key Ctrl + A*)

View menu

- Scrollbar** - show/hide the vertical scrollbar (*shortcut key F7*)
- Menubar** - show/hide the top menubar (*shortcut key F8*)
- Toolbars** - show/hide the toolbars (*shortcut key F9*)
- Statusbar** - show/hide the bottom statusbar (*shortcut key F10*)
- Fullscreen** - show/hide a borderless window (*shortcut key F11*)
- Select Toolbars...** - select which specific toolbars to show/hide
- Reset Screen to Default** - reset the screen to the default view

Format menu

- Set Current Font...** - open the current font dialog to select current font type and size
- Set Default Font...** - open the default font dialog to select default font type and size
- Bold** - set bold font
- Italic** - set italic font
- Underline** - set underline font
- Strikeout** - set strikeout font
- Align Left** - set text alignment to left
- Align Center** - set text alignment to center
- Align Right** - set text alignment to right
- Superscript** - set superscript font (*shortcut key F2 (cycle)*)
- *superscripts will be read by the solver as exponents*
- Subscript** - set subscript font (*shortcut key F2 (cycle)*)
- Pens...** - select a pen to use from pen one to pen six
- *right-click associated toolbar button to set color*

Tools menu

Page...

Page One

- set page one profile
- *right-click associated toolbar button to set color*

Page Two

- set page two profile
- *right-click associated toolbar button to set color*

Page Three

- set page three profile
- *right-click associated toolbar button to set color*

Show Header

- show page header
- *right-click associated toolbar button to set page header text*

Show Footer

- show page footer
- *right-click associated toolbar button to set page footer text*

Show Border

- show a border around the text area of the current page
- *right-click associated toolbar button to set color*

Show Grid

- show a grid on the text area of the current page
- *right-click associated toolbar button to set color*

Show Page Edge

- show a thin line around the page edge
- *right-click associated toolbar button to set color*

Paged Layout

- toggle between a traditional text editor layout and a paged layout
- *right-click associated toolbar button to open page settings*

Tools menu (*cont'd...*)

- Insert...** - insert the selected symbol at the current cursor position
- Insert Image...** - insert image (*from file*) at the current cursor position
- Insert Text...** - insert text (*from file*) at the current cursor position
- Highlight...**
 - highlight specific text within the editor window, eg. variables, units, rebar etc.
 - *right-click associated toolbar button to set color*
- List...** - show a select list of useful information
- Find/Replace** - toggle Find/Replace toolbar
- Resize Image...** - toggle Image Resize toolbar

Settings menu**Page Settings...**

- Page size** - select a page size from the list
- Page orientation** - set page orientation, portrait or landscape
- Cursor width** - set cursor width for current page
- Text margin (%)** - set text margin for current page (*as a % of the full page width*)
- Page location (%)** - set horizontal location for current page
- Page zoom (%)** - set page zoom factor
- Page color** - set/reset color for current page
- Page edge color** - set/reset color for current page edge line
- Selected text color** - set/reset color for current page selected text
- Selection highlight color** - set/reset color for current page selected text background
- Background color** - set/reset color for current page background
- Cursor color** - set/reset color for current page cursor
- Border color** - set/reset color for current page border
- Grid color** - set/reset color for current page grid
- Scrollbar color** - set/reset color for current page scrollbar
- Page Header...** - set page header text (*left, center and right*)
- Page Footer...** - set page footer text (*left, center and right*)

Settings menu (cont'd...)

- Default Folder... - select default folder for opening and saving new files.
- Clear All Settings - reset all parameters to default as and when the editor is next restarted.

Solve menu

- Solve - calculate and update all results (*shortcut key F3*)
- Reset - reset all results to zero, preserving formatting, precision and units (*shortcut key F4*)
- Clear - clear all results completely from the editor window
- Reset Solver - reset text to last solve/reset/clear state
- From Start to Cursor - solve/reset/clear results from start of text to current cursor position
- From Cursor to End - solve/reset/clear results from current cursor position to end of text
- Selection - solve/reset/clear results for selected text only
- Base Units...
 - SI Units - set base units to SI (*metric*)
 - US Units - set base units to US (*imperial*)
- Result Layout...
 - Sci-Notation - enable/disable switching to sci-notation for large and small numbers
 - Auto Precision - automatically set result precision
 - Truncate Zeros - automatically truncate any trailing zeros from the result

Solve menu (cont'd...)**Statement Format...**

- Spaced** - format using a space between all items of the statement
- No Spaces** - format using no spaces in the statement other than at the equals sign
- Star** - format using * symbol for multiplication
- Multiply** - format using × symbol for multiplication
- Slash** - format using / symbol for division
- Divide** - format using ÷ symbol for division (*excl. units*)
- Star Star** - format using ** symbol for exponents
- Power** - format using ^ symbol for exponents
- Superscript** - format using superscript for exponents
- Hide Semicolons** - hide/show semicolon delimiters within the editor window

Solve menu (cont'd...)

Result Format...

- Auto** - format results as per preceding statement format
- User** - leave the current result format unchanged
- Bold** - format using bold font for result (*number part only*)
- Italic** - format using italic font for result (*number part only*)
- Underline** - format using underline font for result (*number part only*)
- Strikeout** - format using strikeout font for result (*number part only*)
- Pen One** - format using pen one for result (*number part only*)
- *right-click associated toolbar button to set color*
- Pen Two** - format using pen two for result (*number part only*)
- *right-click associated toolbar button to set color*
- Pen Three** - format using pen three for result (*number part only*)
- *right-click associated toolbar button to set color*
- Reset Pens** - reset all pen colors to default

Help menu

- User Manual... - open the online *nKalc* User Manual (*shortcut key F1*)
- Constants Info... - display a list of *nKalc* constants
- Units Info... - display a list of *nKalc* units
- Operators Info... - display a list of *nKalc* operators
- Functions Info... - display a list of *nKalc* functions
- Bar Size Info... - display a list of *nKalc* bar sizes
- About... - display *nKalc* version number

Toolbars

The editor provides 9 toolbars which provide almost all of the functionality of the menus

- Font Toolbar *(default: on)*
- Page Toolbar *(default: on)*
- Special Font Toolbar *(default: on)*
- Solver Toolbar *(default: on)*
- Solver Settings Toolbar *(default: on)*
- Highlighter Toolbar *(default: on)*
- Find/Replace Toolbar *(default: off)*
- Image Resize Toolbar *(default: off)*

The visibility of individual toolbars can be controlled through the 'View / Select Toolbars' menu.

All toolbar controls are accompanied with a statusbar tool tip describing it's action.

Please take a few minutes to hover over each toolbar reading the aforementioned statusbar tips, which also tie back to the menu explanations already provided.

Right-clicking on certain toolbar buttons will open a color selection dialog, a page settings dialog, or a page header/footer text dialog.

Statusbar

The editor provides an active statusbar which provides useful information

- Tips for each toolbar item
- General updates on Editor actions taken
- Updates on success of calculations, and precise error messages when required
- Current cursor location
- Current page number
- Window opacity slider

Page Header and Footer

Upon opening the header or footer dialog window, three locations are available for text input, left, center, or right.

Alternatively, the following commands can be used in any of the available locations,

- | | |
|------------|--|
| #page# | - show the current page number followed by the total page number |
| #date# | - show the date |
| #time# | - show the time |
| #datetime# | - show the date followed by the time |
| #timedate# | - show the time followed by the date |

Formatting

Example 1 (*single step formatting*)

Line load; $w=10\text{kN/m}$
 Span; $L=10\text{m}$
 Bending moment; $M=w*L^{**2}/8=\text{kNm}$

Applying statement formats: Spaced, Multiply, and Superscript
 Applying result format: Pen One
 And solving gives -

Line load; $w = 10\text{kN/m}$
 Span; $L = 10\text{m}$
 Bending moment; $M = w \times L^2 / 8 = 125\text{kNm}$

Example 2 (*single step formatting with mixed units and user precision*)

Line load; $w=6\text{kN/ft}$
 Span; $L=24\text{ft}$
 Bending moment; $M=w*L^{**2}/8=0.000\text{kNm}$

Applying statement formats: Spaced, Multiply, and Superscript
 Applying result format: Underline
 And solving gives -

Line load; $w = 6\text{kN/ft}$
 Span; $L = 24\text{ft}$
 Bending moment; $M = w \times L^2 / 8 = \underline{131.674\text{kNm}}$

Variables

Variable names can include -

- alphanumeric characters A-Z, a-z, 0-9
- greek characters A-Ω, α-ω
- subscripted characters
- underscores _
- single apostrophes ` (eg. f`c)

Variable names cannot include -

- a dot .
- parenthesis
- superscripted characters
- mathematical operators
- equals signs

Variable names cannot -

- start with a number
- have the same name as a constant
- have the same name as a unit
- have the same name as a function

Variable names are case-sensitive, but they are not subscript-sensitive -

- S_v and s_v are separate variables
- A_{v_min} and Av_min are the same variable

A number, decimal or constant placed before the variable will factor the variable by that amount.

Example one

$$b_v = 150mm; \quad 2.5b_v = 250mm$$

Example two (*circumference of a circle*)

$$r = 10cm; \quad 2\pi r = 62.8cm$$

Current variables can be viewed at any time from Tools / List... / Variables...

Variable lists are renewed with every solve/reset/clear action.

Constants

The full list of constants currently included with the editor are as follows,

g	- acceleration due to gravity
π	- pi
PI	- pi

Units

The full list of units currently included with the editor are as follows,

Distance (SI)

pm	- picometer
nm	- nanometer
µm	- micrometer
mm	- millimeter
cm	- centimeter
dm	- decimeter
m	- meter
dam	- decameter
km	- kilometer

Distance (US)

thou	- thousandth of an inch
in	- inch
ft	- foot
yd	- yard
mi	- mile

Area

ha	- hectare
ac	- acre

Volume (SI)

si_tsp	- teaspoon (metric)
si_tbsp	- tablespoon (metric)
si_cup	- cup (metric)
µltr	- microlitre
mltr	- millilitre
ltr	- litre

Units (cont'd...)**Volume (US)**

tsp	- teaspoon (imperial)
tbsp	- tablespoon (imperial)
floz	- fluid ounce
cup	- cup (imperial)
pt	- pint
qt	- quart
gal	- gallon
bu	- bushel
us_tsp	- teaspoon (US)
us_tbsp	- tablespoon (US)
us_floz	- fluid ounce (US)
us_cup	- cup (US)
us_pt	- pint (US)
us_qt	- quart (US)
us_gal	- gallon (US)
us_bu	- bushel (US)

Mass (SI)

mg	- milligram
gm	- gram
kg	- kilogram
t	- tonne
tonne	- tonne

Mass (US)

z	- ounce
lbm	- pound
lbs	- pounds
stone	- stone
slug	- slug
slugs	- slugs
ton	- ton (imperial)
us_ton	- ton (US)

Units (cont'd...)**Force (SI)**

dyne	- dyne
mN	- millinewton
N	- newton
kN	- kilonewton
MN	- meganewton
GN	- giganewton
kgf	- kilogram force

Force (US)

oz	- ounce force
ozf	- ounce force
lb	- pound force
lbf	- pound force
kip	- kilopound force
kips	- kilopound force
ton	- ton force
tonf	- ton force

Density (US)

pcf	- pound force per cubic foot
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Line Load (US)

plf	- pound force per linear foot
klf	- kilopound force per linear foot

Time

ms	- millisecond
s	- second
mins	- minute
hr	- hour
day	- day
yr	- year

Units (cont'd...)**Pressure (SI)**

Pa	- pascal
kPa	- kilopascal
MPa	- megapascal
GPa	- gigapascal
mbar	- millibar
mbars	- millibars
bar	- bar
bars	- bars
atm	- atmosphere

Pressure (US)

psi	- pound force per square inch
psf	- pound force per square foot
ksi	- kilopound force per square inch
ksf	- kilopound force per square foot

Torque (SI)

Nmm	- newton millimeter
Nm	- newton meter
kNm	- kilonewton meter
MNm	- meganewton meter

Units (cont'd...)**Torque (US)**

lb_in	- pound force inch
in_lb	- inch pound force
lbf_in	- pound force inch
in_lbf	- inch pound force
lbs_in	- pound force inch
in_lbs	- inch pound force
lb_ft	- pound force foot
ft_lb	- foot pound force
lbf_ft	- pound force foot
ft_lbf	- foot pound force
lbs_ft	- pound force foot
ft_lbs	- foot pound force
kip_in	- kilopound force inch
in_kip	- inch kilopound force
kip_ft	- kilopound force foot
ft_kip	- foot kilopound force
ton_ft	- ton force foot
ft_ton	- foot ton force
tons_ft	- tons force foot
ft_tons	- foot tons force

Power

mW	- milliwatt
W	- watt
kW	- kilowatt
MW	- megawatt
GW	- gigawatt

Action

Js	- joule second
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Speed

kph	- kilometers per hour
mph	- miles per hour

Units (cont'd...)**Energy**

erg	- erg
mJ	- millijoule
J	- joule
kJ	- kilojoule
MJ	- megajoule
GJ	- gigajoule
mWh	- milliwatt hour
Wh	- watt hour
kWh	- kilowatt hour
MWh	- megawatt hour
GWh	- gigawatt hour
cal	- calorie
kcal	- kilocalorie
BTU	- british thermal unit

Electrical

μ A	- microampere
mA	- milliampere
A	- ampere
amp	- ampere
kA	- kiloampere
μ Ah	- microampere hour
mAh	- milliampere hour
Ah	- ampere hour
kAh	- kiloampere hour
Cmb	- coulomb
mV	- millivolt
V	- volt
kV	- kilovolt
mVA	- millivolt amp
VA	- volt amp
kVA	- kilovolt amp
mVm	- millivolt meter
Vm	- volt meter
kVm	- kilovolt meter

Units (cont'd...)**Electrical** (cont'd...)

mΩ	- milliohm
Ω	- ohm
kΩ	- kilohm
MΩ	- megaohm
mΩm	- milliohm meter
Ωm	- ohm meter
kΩm	- kilohm meter
MΩm	- megaohm meter
siemens	- siemens
mho	- reciprocal of ohm (siemens)
farad	- farad
pF	- picofarad
nF	- nanofarad
μF	- microfarad
mF	- millifarad
F	- farad
weber	- weber
henry	- henry
μH	- microhenry
mH	- millihenry
H	- henry
tesla	- tesla
gauss	- gauss
oersted	- oersted

Quantity

mol	- mol
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Sound

dB	- decibel
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Frequency

Hz	- hertz
kHz	- kilohertz
MHz	- megahertz
GHz	- gigahertz

Units (cont'd...)**Angle**

rad	- radian
rads	- radians
°	- degrees

Temperature

°C	- celsius
°Cday	- celsius day
°F	- fahrenheit
K	- kelvin

Data

bit	- bit
bits	- bits
Byte	- byte
Bytes	- bytes
KB	- kilobyte

Data cont'd...

MB	- megabyte
GB	- gigabyte
TB	- terrabyte
KiB	- kibibyte
MiB	- mebibyte
GiB	- gibibyte
TiB	- tebibyte

Currency

\$	- dollar
€	- euro
£	- pound
¥	- yen

Units (cont'd...)

The value of any constant or unit can be checked to any user precision set, as follows -

$PI = 0.00000$ (5 decimal places sought by the user)

And solving gives -

$PI = 3.14159$

weber = (default precision and units sought by the user)

And solving gives -

weber = $1.00\text{kgm}^2/\text{As}^2$

Reinforcement

The editor can recognize rebar quantities when input as follows,

Bar sizes (SI)

$R6, R8, R10, R12, R16, R20, R25$

$T6, T8, T10, T12, T16, T20, T25, T32, T40$

Bar sizes (US)

$No3, No4, No5, No6, No7, No8, No10$

Examples (SI and US units can be mixed)

$R10 = 78.5\text{mm}^2;$

$T12@200\text{mm} = 565\text{mm}^2/\text{m};$

$2T16@300\text{mm} = 1340\text{mm}^2/\text{m}$

$No3 = 0.110\text{in}^2;$

$No4@8\text{in} = 0.295\text{in}^2/\text{ft};$

$2No5@12\text{in} = 0.0511\text{in}$

$T20 = 0.487\text{in}^2;$

$No6@200\text{mm} = 0.673\text{in}^2/\text{ft};$

$2R12@10\text{in} = 891\text{mm}^2/\text{m}$

Results

Text format of results is controlled through the menus and toolbars as previously described.

Precision and units are controlled by the user, and the editor will respond to to the user as follows -

user leaves a blank space where the result should be.

- editor will insert a result using a default number precision and base units.

user inputs a number only, where the result should be.

- editor will insert a result using the precision of the existing number along with base units, should units be required.

user inputs a unit only where the result should be.

- editor will insert a result using a default number precision and match the units found if they are compatible. If the units are incompatible, the editor will revert to base units.

user inputs a number and a unit where the result should be.

- editor will insert a result using the precision of the existing number and match the units found if they are compatible. If the units are incompatible, the editor will revert to base units.

user inputs a number and a unit where a unitless result should be.

- editor will insert a result using the precision of the existing number and remove the excess units.

user inputs incoherent text where the result should be.

- editor will delete all existing text and insert a result using a default number precision and base units, should units be required.

Precision and units can be updated by the user prior to running any solve or reset function.

The clear function will clear all text from the result space.

The value of the number placed in result space does not matter, the editor will only look at the precision of the number. This works exactly the same way for sci-notation, the precision will be read from the first number (preceding the letter e).

If truncate zeros is switched on, the precision you set may not be reached as any trailing zeros will be cut.

SI / US Base Units

Where the units for a result have not been specified, the editor will provide SI base units or US base units, depending upon which option is current. Note, the user is still free to specify any units, SI or US, no matter which option is current.

SI Base Units -

length	meter	m
mass	kilogram	kg
time	seconds	s
electric current	ampere	A

US Base Units -

length	feet	ft
mass	slugs	slug/slugs
time	seconds	s
electric current	ampere	A

Sci-Notation

The editor can read and write sci-notation.

If sci-notation is switched off, the editor will not use sci-notation in results, but it will still read any sci-notation used in statements or equations.

If sci-notation is switched on, the editor will use sci-notation in results. Numbers larger than 10^{15} or smaller than 0.0001 will be expressed in sci_notation.

Sci notation example formats as follows -

$$10^{16} = 1e+16$$

$$23^{12} = 2.19e+16$$

$$-23^{12} = -2.19e+16$$

$$0.00001 = 1e-5$$

$$-0.0000123 = -1.23e-5$$

$$1e+16cm + 1e+16cm = 2e+16cm$$

$$(1e+16)cm + (1e+16)cm = 2e+16cm$$

Auto Precision

With this option selected the editor will automatically set the precision of results (*default: off*)

Truncate Zeros

With this option selected the editor will truncate results and remove any trailing zeros automatically (*default: on*)

Functions

The calculation editor currently includes a list of useful functions, examples of each are provided below.

(note the semicolon separator (delimiter) positions on each line)

if... function	$a = 10\text{mm};$ $a = 10\text{mm};$ $a = 10\text{mm};$	$b = 5\text{mm};$ $b = 5\text{mm};$ $b = 5\text{mm};$	$\text{if}(b < a, c = \text{"Pass"}, c = \text{"Fail"});$ $\text{if}(a = b, c = \text{"Pass"}, c = \text{"Fail"});$ $\text{if}(a \neq b, c = \text{"Pass"}, c = \text{"Fail"});$	$c := \text{Pass}$ $c := \text{Fail}$ $c := \text{Pass}$
sqrt... function	$a = 9\text{m}^2;$	$b = 7\text{m}^2;$	$\text{sqrt}(a + b) = 4\text{m}$ $\sqrt{a + b} = 4\text{m}$ $\sqrt{a} = 3\text{m}$	
cbirt... function	$a = 4\text{m}^3;$	$b = 4\text{m}^3;$	$\text{cbirt}(a + b) = 2\text{m}$ $\sqrt[3]{a + b} = 2\text{m}$ $\sqrt[3]{27} = 3$	
ftrt... function	$a = 8\text{m}^4;$	$b = 8\text{m}^4;$	$\text{ftrt}(a + b) = 2\text{m}$ $\sqrt[4]{a + b} = 2\text{m}$ $\sqrt[4]{256} = 4$	
ln... function	$a = 10;$	$\ln(a) = 2.30259;$		<i>log of 10 to base e</i>
log... function	$a = 100;$	$\log(a) = 2;$		<i>log of 100 to base 10</i>
log... function	$a = 27$	$b = 3;$	$\log(a, b) = 3;$	<i>log of 27 to base 3</i>
abs... function	$a = 10\text{m};$	$b = 5\text{m};$	$\text{abs}(b - a) = 5\text{mm}$	
avg... function	$a = 3\text{ft};$	$b = 9\text{ft};$	$c = \text{avg}(a, b, a+b) = 8\text{ft}$	
max... function	$a = 10\text{in};$	$b = 5\text{in};$	$c = \text{max}(a, b, a+b) = 15\text{in}$	
min... function	$a = 10\text{in};$	$b = 5\text{in};$	$\text{min}(a, b, a+b) = 5\text{in}$	
sum... function	$a = 10\text{in};$	$b = 5\text{in};$	$c = \text{sum}(a, b, a+b) = 30\text{in}$	
rand... function	$a = \text{rand}();$	$a = 0.123;$		<i>returns a random number between 0 and 1</i>
rand... function	$a = \text{rand}(4, 9);$	$a = 8;$		<i>returns a random number between 4 and 9 (inclusive)</i>

Functions (cont'd...)Trigonometric functions (*sample*),

sin... function $\theta = 90^\circ;$ $c = \sin(\theta) = 1.0$
 $\sin(3.14 / 2) = 1.0;$ *direct input needs to be in radians*

cos... function $\theta = \pi\text{rads};$ $c = \cos(\theta) = -1.0$
 $\cos(3.14) = -1.0;$ *direct input needs to be in radians*

tan... function $\theta = 30^\circ;$ $c = \tan(\theta) = 0.5774$
 $\tan(3.14 / 6) = 0.5774;$ *direct input needs to be in radians*

asin... function $a = 1.0;$ $\theta = \text{asin}(a) = 1.570\text{rads}$

acos... function $a = -1.0;$ $\text{acos}(a) = 3.142\text{rads}$

atan... function; $a = 0.5774;$ $\theta = \text{atan}(a) = 0.524\text{rads}$

Full list of trigonometric functions -

$\sin()$, $\cos()$, $\tan()$, $\text{asin}()$, $\text{acos}()$, $\text{atan}()$, $\sinh()$, $\cosh()$, $\tanh()$, $\text{asinh}()$, $\text{acosh}()$, $\text{atanh}()$

$\sec()$, $\csc()$, $\cot()$, $\text{asec}()$, $\text{acsc}()$, $\text{acot}()$, $\text{sech}()$, $\text{csch}()$, $\text{coth}()$, $\text{asech}()$, $\text{acsch}()$, $\text{acoth}()$

Images

Images can be copy/pasted into the text area, dragged and dropped, or inserted from the menu (*as described above*).

Images can be selected by clicking on the image followed by a small drag prior to release.

Images can be resized to a percentage of the page width, the original proportions of the image will be preserved.

The current size of images which have previously been resized can be checked.

For optimal performance use the smallest possible file size.

Printing

The editor will only print to a pdf file.

Printing will include

- Border (*if visible*)
- Grid (*if visible*)
- Header (*if visible*)
- Footer (*if visible*)

The editor will always print on a white page, no matter which color of page is currently in use.

Keyboard Shortcuts

Open ...	- Ctrl + O	
New	- Ctrl + N	
Close	- Ctrl + W	
Save	- Ctrl + S	
Save As...	- Ctrl + Shift + S	
Reload	- F5	
Export to pdf...	- Ctrl + P	
Exit	- Ctrl + Q	
Undo	- Ctrl + Z	
Redo	- Ctrl + Shift + Z	
Cut	- Ctrl + X	
Copy	- Ctrl + C	
Paste	- Ctrl + V	
Select All	- Ctrl + A	
Show/hide scrollbar	- F7	
Show/hide menubar	- F8	
Show/hide toolbars	- F9	
Show/hide statusbar	- F10	
Enable/disable fullscreen	- F11	
Subscript/Superscript/None	- F2 (cycle)	
Solve	- F3	
Reset	- F4	
Show Find/Replace toolbar	- Ctrl + F	<i>(can also be used to load selected text into the toolbar)</i>
Show/hide Image Resize toolbar	- Ctrl + I	
User Manual (<i>online</i>)	- F1	

Contact Us

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