

TD-01 Guide

0) Run Calculator.java to Operate

Supported Features

1) Basics

- a) Add ex. $3+2=5$
- b) Subtract ex. $3-2=1$
- c) Multiply ex. $3*2=6$
- d) Divide ex. $3/2=1.5$
- e) Power $3^2=9$
- f) Mod $3\%2=1$
- g) Factorial $3!=6$

2) Functions

- a) `root(index,radicand)`
Root Function - Math root function
Example: `root(2,16) = 4`
- b) `abs(value)`
Absolute Value Function - Returns the distance to 0
Example: `abs(-3) = 3`
- c) `floor(value)`
Floor Function - Returns the smallest integer less than the value
Example: `floor(3.2) = 3`
- d) `ceil(value)`
Roof Function - Returns the largest integer less than the value
Example: `ceil(3.2) = 4`
- e) `gcf(value,value)`
Greatest Common Factor Function- Returns the greatest common factor of two numbers
Example: `gcf(15,20) = 5`
- f) `lcm(value)`
Least Common Multiple Function- Returns the least common multiple of two numbers
Example: `lcm(15,20) = 60`
- g) `ln(value)`
Natural Log function- Returns the natural log of a number
example : `ln(e) = 1`

h) `log(base,value)`

Log Base Function- Given a base, return the exponent the base must be raised to produce the value.

Example: `log(10,100) = 2`

i) `choose(n,r)`

Choose Function- How many different set of r item be chosen from a group of n.

Example: `choose(12,5) = 792`

j) `permute(n,r)`

Permute Function-How many different ways of r item be chosen from a group of n items.

Example: `permute(6,3) = 120`

k) `sin(value)`, `cos(value)`, `tan(value)`

`asin(value)`, `acos(value)`, `atan(value)`

`arcsin(value)`, `arccos(value)`, `arctan(value)`

Trigonometric Functions- Given a value, put it through the trig function and return a result. Make sure to turn degrees or radians mode.

Examples: `degrees <-` Note how they are on separate lines

`sin(30) = .5`

`radian`

`sin(pi) = 1`

3) PEMDAS and Multiple Functions-

The math equation can be as long as it wants to be.

Example: `3sin(30)+permute(16,2)/log(10,100) = 121.5`

4) Graphs-

Graph anything you desire. Multiple graphs work. The color is in the order of the rainbow.

Examples: `graph 3x`

`graph 3x^2=0 16x 17x`

Warnings: Graph is Slow

Graph requires at least 1 x.

Graph may give out bad results.