LIVEMATH JumpStart — Lesson 3 : Functions

MultiVariable Functions : Part One - Intro

All of the functions we have examined have had a single variable (argument). LiveMath can also handle functions with more than one variable.

To define a function with more than one variable enter in all of the variables between the parentheses and separate them with commas.

- snow(x, y) = $x^2 + y^2$
- snow(2, 3)
  - snow(2, 3) = 13 Calculate
- snow(a, b)
  - snow(a, b) = $a^2 + b^2$ Substitute

All of the evaluation, substitution, arithmetic, and composition rules still apply.

- wind(x, y) = $x + 3y$
- storm(x, y) = snow(x, y) + wind(x, y)
  - storm(x, y) = $x^2 + x + y^2 + 3y$ Substitute
- snow(x, wind[x, y])
  - snow(x, wind[x, y]) = snow(x, x + 3y) Substitute
    - snow(x, wind[x, y]) = $(x + 3y)^2 + x^2$ Substitute

Now It's Your Turn... Follow the directions below to get hands on experience.

1.

Define the function

rabbit(x, y) = $x^2 - \sqrt{y + 3} - 4$

Calculate rabbit(0, 6) and rabbit(6, 0).

2.

Define the functions

beetle(x, y) = 3 x - 4 y

bird(x, y) = $\sqrt{x + y}$

Use substitution to establish the formulas for the following expressions

beetle(bird(x, y), y)

beetle(x, bird(x, y))

bird(x, beetle(x, y))

bird(beetle(x, y), y)