



## Quadratics.llb Readme

Quadratics.vi works with a quadratic function in standard form,  $f(x) = ax^2 + bx + c$ . The VI graphs the function, finds the vertex, writes the function in vertex form, finds the discriminant of the function, and finds the zeroes of the function.

Two subVIs are used. QuadraticFormula.vi finds the zeroes of the function, i.e. the solutions of  $ax^2 + bx + c = 0$ , by using the quadratic formula,

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}.$$

Vertex.vi finds the vertex of the parabola using the formula  $x = \frac{-b}{2a}$  for the  $x$ -coordinate.

This value is then plugged into  $f(x) = ax^2 + bx + c$  to find the  $y$ -coordinate of the vertex.

To open Quadratics.vi, double-click the LLB to open the LLB Manager. Then, simply double-click Quadratics.vi in the LLB Manager window.

This LLB and the contained VIs were built using LabVIEW 8.5 on a Mac running OS X. The LLB and VIs will run in Windows with LabVIEW 8.5 or later installed.

Please direct all comments and questions regarding the contents of this document to:

Eric Mann  
[ericmann@gmail.com](mailto:ericmann@gmail.com)  
(512) 363-9379

This document and the VI are the property of Education Service Center, Region XIII. Please direct any comments and questions about the use or distribution of these materials to:

Joules Webb  
Education Service Center, Region 20  
[julianne.webb@esc20.net](mailto:julianne.webb@esc20.net)  
(210) 370-5497

Warm regards,

Eric Mann