





Search :

Search Digital Classroom Resources:

all categories ▾

all subjects ▾

Keyword (optional)

go ▶▶

[Advanced Search](#)**Related Articles****Quadratic Functions**

This applet supplements the authors' "Gutter Problem" material, but can be used to generally study properties and forms of quadratic functions, both analytically and graphically.

[read more](#)

This project is supported by
National Science Foundation
Division of Undergraduate
Education



National Science
Digital Library

Digital Classroom Resources

[<< homepage](#)

[Java Applets](#) : [6.1 Single Variable Calculus](#) | [6.0 Calculus](#) | [3.0 Algebra and Number Theory](#) |

Page 1 of 1

The Gutter Problem

[show printer friendly](#) [send to a friend](#)by **Michael Mays and Laura Pyzdrowski**[discuss this article](#)

The applet on this page is designed to guide students through an exploration that models the rectangular cross sectional area of a gutter as a function of the gutter height when the dimensions of the rectangle are varied. It would fit naturally in an algebra course as a supplemental activity to a unit on quadratic functions, or in a more advanced course as an illustration of mathematical modeling.

Michael Mays and Laura Pyzdrowski

West Virginia University

mays@math.wvu.edulpyzdrow@math.wvu.edu**ACKNOWLEDGEMENTS**

The applet was developed using [JBuilder](#) and the [Mathematical Java Toolkit](#) of [Joe Yanik](#). [Source code](#) is available under the [GPL](#). This work was supported by the [NSF](#), CCLI project number 0339117.

SUPPORTING MATERIAL PROVIDED

- Quadratic function exploration with a link to the related Quadratic Function graphing utility
- Student questions and activities appropriate for an algebra course
- Teacher's key to the student questions and activities
- Additional teacher information explaining content standards and learning objectives

SOFTWARE SPECIFICATIONS

The applet is built using [Java 1.4.2](#), and an appropriate browser plugin (the Runtime Environment is fine) might have to be installed before the applet will work.

Open [The Gutter Problem](#) in a new window

Discuss this article

Be the first to start a discussion about this article.

[start a new discussion thread](#)