

Bomb's Away!

TI-nspire Activity: Quadratic Modeling

Teacher Notes

Objectives:

- Connecting the path of a projectile with its graphic model
- Analyzing quadratic functions both graphically and algebraically
- Interpret the meaning of the vertex and intercepts of a quadratic model in a real world application
- Recognizing restrictions on the domain and range of a quadratic model in a real world application

Prerequisite math skills:

- Be able to solve quadratic equations using factoring or the quadratic formula
- Be able to locate the vertex and intercepts of a quadratic function algebraically
- Have knowledge of function notation and be able to evaluate functions

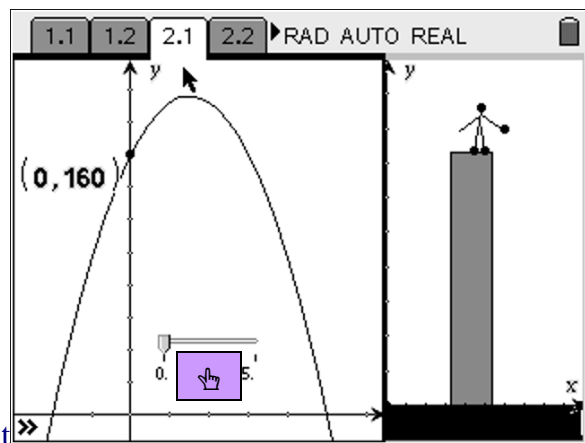
TI-nspire technical skills:


- Open a document
 - Move between pages
 - Grab and drag a slider and a point
 - Input new x- or y-values in a coordinate
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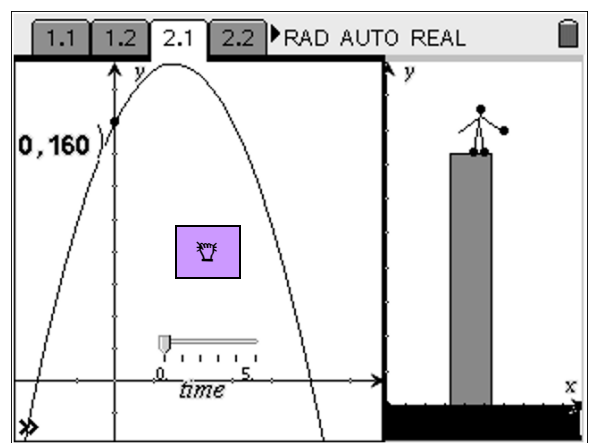
Instructional approach: This lesson can be used with the student activity sheet allowing students to work **individually**, within a **small group**, as part of a **whole class instruction** or as a teacher **demonstration**. If the students are familiar with the technical skills listed above, individual or small group investigation is appropriate.

Lesson materials:

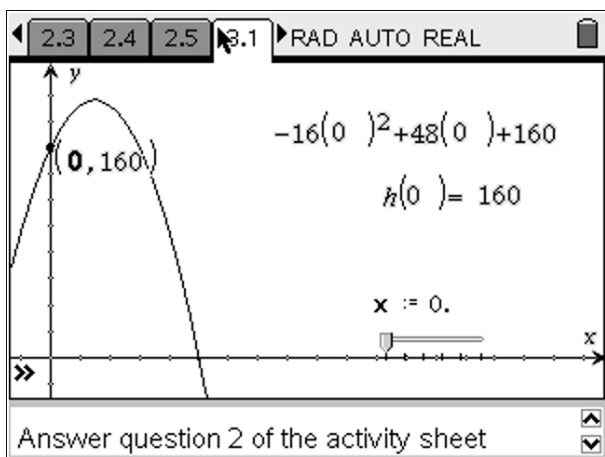
- ***Bomb's Away!*** Student Activity Sheet
- ***Bomb's Away!*** Student Activity Sheet_answer key
- ***Bomb's Away!*** TI-nspire *tns* file





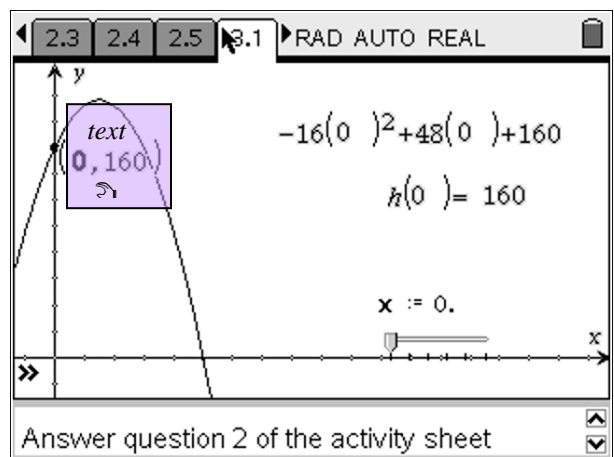
Tech tip: Make sure the  is pointing to the slider before you try to animate.





Tech tip: Students may need to grab an empty spot on the graph to adjust the viewing window.



Tech tip: If students have difficulty getting the slider to the exact value they want tell them to use   on the click wheel.



Tech tip: Students can input the exact value they want by pointing to the text and pressing  and  until there's a box around the desired value.