

# Guess My Coefficients

## CATEGORY

Test, Practice

## DESCRIPTION

Guess My Coefficients provides a review of the graphs and equations of linear, quadratics and absolute value functions in a challenging game setting, where the user can set the number of problems in a game up to 99.



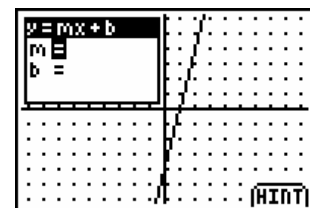
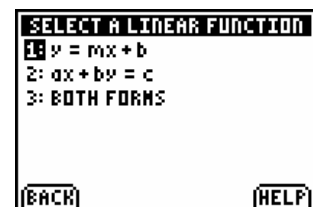
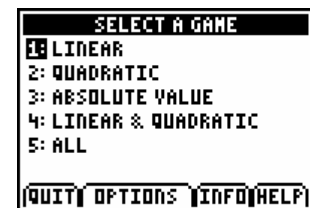
## DIDACTICAL SUGGESTIONS

Students can explore relationships between symbolic expressions and graphs and can get familiarized with various forms of linear, quadratic, and absolute value functions. By viewing the graph of the function they have to determine the coefficients and constants for this function eventually with the help of a HINT option, which shows points on the graph and lets them trace the graph.

First the function type has to be selected from the SELECT A GAME screen. And second the form of the equation of the function.

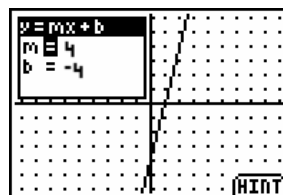
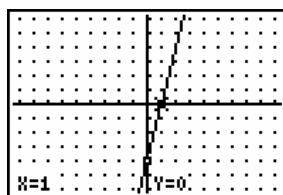
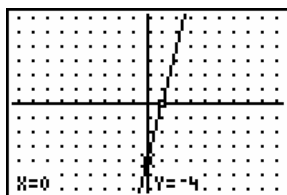
The following function forms are available:

- Linear
  - $y = mx + b$
  - $ax + by = c$
- Quadratic
  - $y = ax^2 + k$     $y = a \cdot x^2 + k$
  - $y = a(x - h)^2 + k$
  - $y = a(x - r)(x - s)$
- Absolute Value
  - $y = a|x| + k$
  - $y = a|x - h| + k$

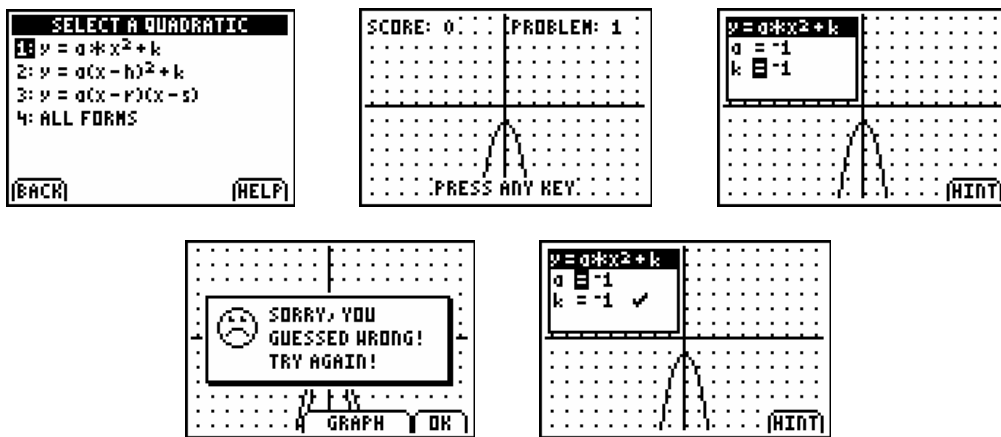


The game can also be played with multiple function types instead of just one type. In this case ALL has to be selected from the SELECT A GAME screen.

If you are not sure about the values of a graph, you can obtain a HINT, which lets you trace the graph.

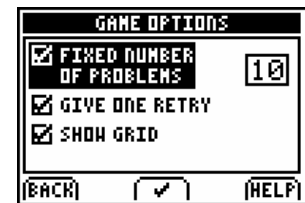


An example of a quadratic one.

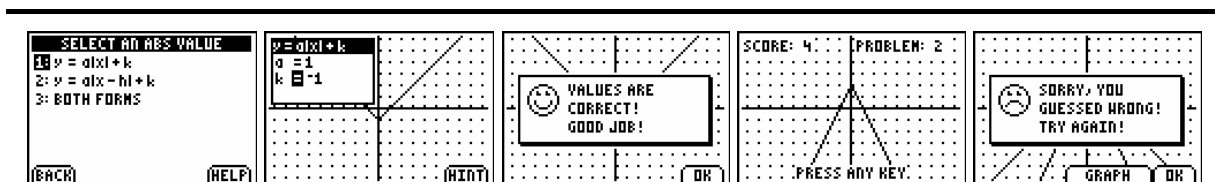
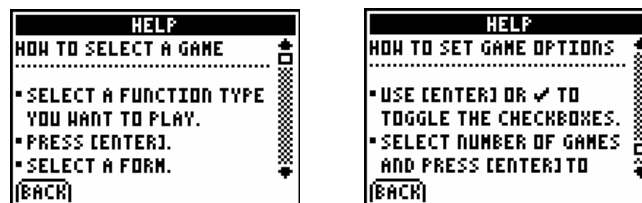


The score is computed based on whether the input is the correct answer on the first or second try and whether a hint is used to help to determine the correct answer. When you reach a high score, you can enter your initials in the high score table. The initials displayed are AAA until you change them.

You can set three different options for the games. The options that you select apply to every function type (game) on the SELECT A GAME screen. The game consists of the defined number of problems displayed on the right side of the screen, no matter how many incorrect answers you give. When this option is not selected, you play the game until you have given three incorrect answers.



Help is available for each game from the SELECT A GAME and OPTIONS screens, and from each SELECT A FUNCTION screen.



### POINT OF VIEW

At first sight and without additional learning materials this nice application can only be used for testing and practicing. Students like to work on it, because of the challenging game character of this application. Therefore it can be assumed to be very useful for the learning process of the students. If the teacher embeds the Guess My Coefficients application in a learning environment with additional exercise sheets, students can explore function problems with the help of this application. They can describe patterns and develop rules and even algebraic expressions and explain their conclusions.