

TITLE OF LESSON: Graphing Bingo

ESTIMATED TIME FOR LESSON (IN MINUTES): 20 - 60 minutes

SUGGESTED FORMAT (check all that are appropriate):

- Individual in-class
- Collaborative in-class
- Individual homework
- Collaborative homework

OVERVIEW:

Leader calls out x-values and students plot points belonging to the functions on their bingo cards, attempting to be first to complete one or more graphs. Students will discover how even and odd symmetry can help them fill their cards out faster.

PREREQUISITE IDEAS AND SKILLS:

- Be able to plot points in the Cartesian coordinate system.
- Be able to graph a function by plotting points.
- Be able to evaluate a function at a given input value, using common operations such as exponents, square roots, and absolute value.
- Know how to plot a y-intercept.
- Recognize even and odd functions by properties of their graphs.
- Be able to test for even and odd using a function's formula.

MATERIALS NEEDED TO CARRY OUT LESSON:

- [Bingo Cards](#) - make a copy of each card for each student or team.
- [Call Letters](#) - prepare these to be drawn or selected randomly during the game.
- [Instructions](#) - keep a copy handy to refer to as needed.
- [Master List of Functions](#) - keep these on hand to check students' work.

CONCEPTS TO BE LEARNED/APPLIED:

- Given a point on an even or odd function, symmetry can be used to find a matching point on the other side of the y-axis.
- How to determine whether a function is even, odd, or neither.

INSTRUCTIONAL PLAN:

Each student or team receives a bingo card. The instructor calls out letter/number pairs. Students plot a point on the graph indicated by the letter, using the provided number as an x-value. Students may plot a second point as symmetry would indicate. The object is to be first to complete a graph, or to complete all the graphs on a card. [See the instructions sheet for more detail.](#)

Once a student has BINGO-ed, discuss how symmetry helped complete graphs more quickly. Play a second game to allow those who didn't pick up on it the first time to incorporate symmetry into their strategy. You should feel free to add to or adapt the game in any way that seems helpful!