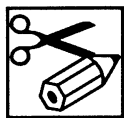


Tic-Tac-Toe on a Grid

Leader



Practice finding and naming graphing points on a grid (also called a coordinate plane or graph paper.)



You will need:

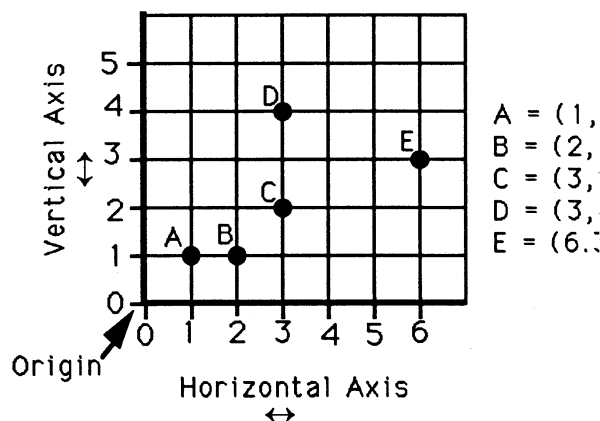
- Graph paper
- Pencils or markers



Do this:

- By using numbers to name the lines and intersections of lines on graph paper we can draw graphs or pictures of algebraic equations.
- The name given to the two numbers that name an intersection is “ordered pair,” and intersections are called points. The ordered pair is always written in parentheses. On the grid below, point A is located at (1,1).
- To name the location of a point on a grid:

- 1) move from the zero point (origin) on the horizontal \leftrightarrow (across) axis until you reach vertical \updownarrow (up and down) line #1.
- 2) move up the vertical line #1 until it meets horizontal line (\leftrightarrow) #1.
- 3) since point A is at the intersection of horizontal line #1 and vertical line #1, we name it **(1,1)**.



For graphing with coordinate points (using ordered pairs) we move *across* the horizontal axis, and then up the vertical axis—using only the *lines*—not the spaces.



Stenmark, J.K., V. Thompson, and R. Cossey. *Family Math*. Regnets, University of CA, 1986:196.

Tic-Tac-Toe on a Grid

Student _____



Do this:

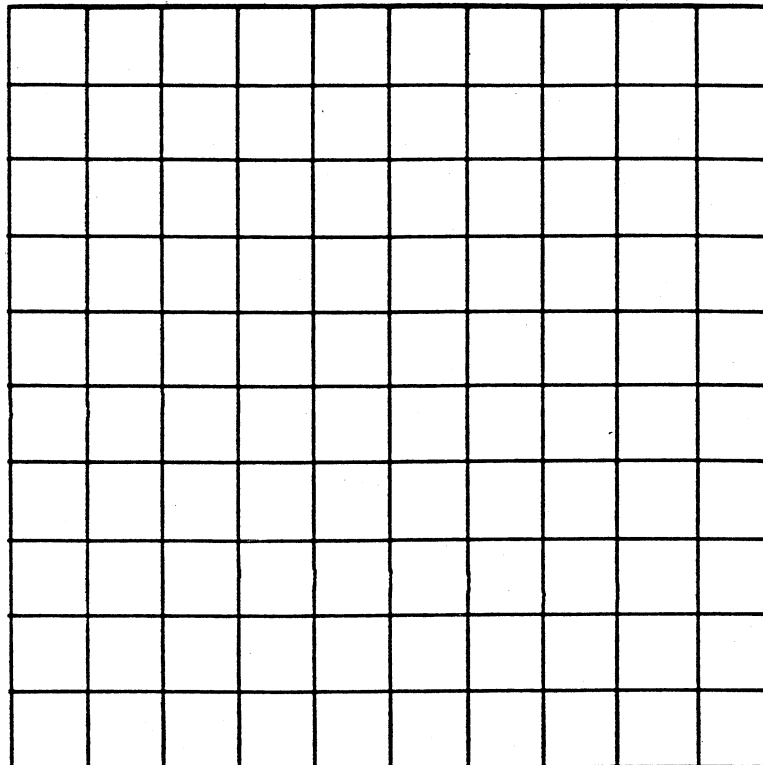
This game is played almost like Tic-Tac-Toe with a 3 x 3 game board except that:

- 1) The game board is larger — usually 10 x 10.
- 2) The Xs and Os are put on the line intersections instead of in spaces.
- 3) The goal is to get four Xs or four Os in a row.
- 4) You must state the location of each X or O as you place it. This means that you must use the ordered pair name for each X or O.



Markers (small beans, buttons, popcorn kernels, etc.) can be used instead of Xs and Os so that the board may be used over and over.

- Number your 10 x 10 grid using the coordinate system shown on the leader's guide, but number to ten on each axis.
- Players take turns naming the points for the X and O. The points *must* be named by their ordered pair names [i.e., (2,3) or (1,4), etc.]
- Keep a record on the grid (with a pencil or with markers) of the points called by each person.
- The goal is to get four Xs or four Os in a row.



WHAT I FOUND