Right Angle Tic-Tac-Toe

The plotting will surely thicken as students play this graphing game.

☁ ➤ Directions

1. Have students make a first-quadrant coordinate grid whose axes number from 0 to 10. You may also prepare the grids in advance.

2. Tell students that the object of the game is for a team to plot five adjacent Xs or Os to form a right angle, for example, (2,2), (3,2), (4,2), (4,1), and (4,0).

3. To play, divide the class into groups or pairs. Then divide each group or pair into two teams—Team X and Team O. Team X names the coordinates of a point they want to plot and then plots it. Then Team O names and plots its desired point. Play continues in turn this way.

4. Each team judges the accuracy of the other team's plotting. If a team names a point already taken, or a point off the graph, the turn is lost.

5. Encourage teams to play defensively as well as offensively.

6. The first team to plot five adjacent Xs or Os that form a right angle wins the game.

☆ Taking It Farther

Play using other quadrants of the coordinate grid. Or change the rules so that teams form a seven-point right angle, a square, or another shape they agree on.

✓ Assessing Skills

* Do students correctly name and plot points on the coordinate grid?

* What strategies do teams use to win or to defend?

LEARNING OBJECTIVE

Students use visual/spatial reasoning and coordinate geometry to play a game in which they try to plot five adjacent points that form a right angle.

GROUPING

Cooperative groups or pairs

MATERIALS

* centimeter grid paper
* markers