

Over and Up Squares

- Materials**
- 1 *Over and Up Squares* Gameboard and Record Sheet (*Math Masters*, p. 494)
 - 1 colored pencil per player (different colors)
 - 2 six-sided dice

Players 2

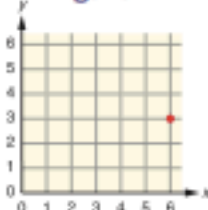
Skill Plotting ordered pairs; developing a winning game strategy

Object of the game To score more points by connecting ordered pairs on a coordinate grid.

Directions

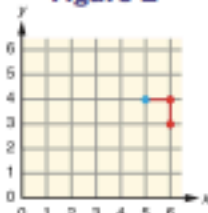
1. Player 1 rolls 2 dice and uses the numbers to make an ordered pair. Either number can be used to name the x -coordinate (over) of the ordered pair. The other number is used to name the y -coordinate (up) of the ordered pair. After deciding which ordered pair to use, the player marks it on the grid with his or her colored pencil (See Figure 1.)
2. Player 1 records the ordered pair and the score in the first table. A player earns 10 points each time an ordered pair is marked correctly.
3. Player 2 rolls the dice and decides how to make an ordered pair. If both possible ordered pairs are already marked on the grid, the player rolls the dice again. (Variation: If both possible ordered pairs are already marked, the player can change one or both of the numbers to 0.)
4. Player 2 uses the other colored pencil to mark the ordered pair and records the ordered pair and score in the second table.
5. Players take turns rolling the dice, marking ordered pairs on the grid, and recording the results. On a player's turn, if 2 marked grid points are next to each other on the same side of one of the grid squares, the player connects them with a line segment he or she makes. Sometimes more than 1 line segment may be drawn in a single turn. (See Figure 2.) A player scores 10 points for each line segment drawn.
6. If a player draws a line segment that completes a grid square, (so that all 4 sides of the square are now drawn), that player colors in the square and earns 50 points. (See Figure 3.)
7. The player with more points after 10 rounds wins.

Figure 1



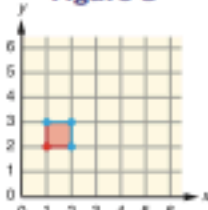
Player 1 rolls a 3 and a 6. The point (6,3) is marked on the grid.

Figure 2



Player 1 marks (6,4) and scores 10 points. Player 1 draws 2 line segments and scores 20 points. The score for the round is 30 points.

Figure 3



Player 1 marks (1,2) and scores 10 points. Player 1 draws 2 line segments and scores 20 points. The line segments complete a square. Player 1 colors in the square and scores 50 points. The score for the round is 80 points.