4-25-2024

Caterpillar, Lobster, X graphs

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Game Rules:

1. Alpha (Player 1) plays first, Alpha selects any cater. Whichever cater selected, takes out the surrounding connected caters.

2. Beta (Player 2) plays second, Beta selects any cater. Whichever cater selected, takes out the surrounding connected caters. Cannot select a cater that has already been taken out.

3. Alpha and Beta take turns selecting and knocking out caters until none, 0, remain. The player to take last cater, wins.

Terms & Vocabulary:

Alpha - the first player to play - plays on odd turns.

Beta - the second player to play - plays on even turns.

Cater (cat-ir) - any point that can be selected: a "spine point" or the end of a "leg."

Spine - the central horizontal line in which holds "spine points."

Spine Points - resting on the "spine," allows 1 or more "legs" to branch from the "spine."

Legs - the lines branching from the "spine points" on the "spine." Can rest "above spine" or "below spine."

Above Spine - "legs" that branch upwards of the "spine."

Below Spine - "legs" that branch downwards of the "spine."

Strategies Found

4 - Selecting caters to create a “4” shape.

H - Selecting caters to create an upper case “H” shape.

Odd Moves - When an odd amount of moves remain, generally moves consisting of 1 cater per. We found that Alpha will win. This further allowed us to play with a goal in mind to create ourselves this situation as Alpha.

Even Moves - When an even amount of moves remain, generally moves consisting of 1 cater per. We found that Beta will win. This further allowed us to play with a goal in mind to create ourselves this situation as Beta.

3 Different Models

- Our focus has been on what we call the “Caterpillar.” The caterpillar has one central spine with an above leg and below leg.
- Our secondary model is called “Lobster.” The lobster, like the caterpillar, has one central spine with an above leg and below leg. Branching from each of these legs, is one more extended leg.
- The third model that we looked at was called “X.” The x, just like the other two, has one central spine. Each spine point uniquely has two above legs and two below legs. These legs run diagonally crossing at the spine point. Thus creates an “X” shape.