

Heuristic 1

```
if game.is_loser(player):  
    return float("-inf")  
    if game.is_winner(player):  
        return float("inf")  
    moves = len(game.get_legal_moves(player))  
    prob_moves = len(game.get_legal_moves(game.get_opponent(player)))  
    return moves * moves - 1.5 * prob_moves * prob_moves
```

Heuristic 2

```
if game.is_loser(player):  
    return float("-inf")  
    if game.is_winner(player):  
        return float("inf")  
    moves = len(game.get_legal_moves(player))  
    opponent_moves = len(game.get_legal_moves(game.get_opponent(player)))  
    return 1.5 * moves * moves - opponent_moves * opponent_moves
```

Heuristic 3

```
opponent = game.get_opponent(player)  
opponent_moves = game.get_legal_moves(opponent)  
p_moves = game.get_legal_moves(player)  
common_moves = opponent_moves and p_moves  
if not opponent_moves:  
    return float("inf")  
if not p_moves:  
    return float("-inf")  
move_convergence = 1 / (game.move_count + 1)  
inverse_convergence = 1 / move_convergence  
return float(len(common_moves) * move_convergence +  
inverse_convergence * len(game.get_legal_moves(player)))
```