

E: Evening Entertainment

Problem author: Michael Zündorf

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Solution

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- Each player needs to score points and lose them all in the last round

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- Who takes the tricks does not matter. Let the first player take all tricks
- The first player has $p_0 = \sum_{i=0}^{n-1} 20 + 10 \cdot i$ points before the last round
- All other players have $p_j = 20 * (n - 1)$ points before the last round

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- The first player has $p_0 = \sum_{i=0}^{n-1} 20 + 10 \cdot i$ points before the last round
- All other players have $p_j = 20 * (n - 1)$ points before the last round
- To lose all points in the last round, each player needs to bet $p_j/10$ tricks more than they take
- This number is always an integer and therefore possible