



19 Casino

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Challenge

Ruprecht and the Grinch are playing the following game: Ruprecht starts with an initial capital of 189€. The Grinch starts with six cards, three of which carry the word “DOUBLE”; whereas the other three cards carry the word “NOTHING”. The game is played over six rounds.

At the beginning of every round, Ruprecht announces his bet B for the current round, where B is an arbitrary non-negative real number that must not exceed Ruprecht’s current capital. After hearing the bet B , the Grinch plays one of his cards; each of the six cards may be played only *once*.

- If the Grinch plays a card with the word NOTHING, Ruprecht loses B Euros to the Grinch.
- If the Grinch plays a card with the word DOUBLE, Ruprecht keeps his B Euros and receives another B Euros from the Grinch.

Of course, in every round, the Grinch and Ruprecht make the best possible decisions for themselves respectively.

What is the total amount of money Ruprecht possesses at the end of the game?



Artwork: Frauke Jansen

Possible answers:

1. Roughly 210 €.
2. Roughly 222 €.
3. Roughly 234 €.
4. Roughly 245 €.
5. Roughly 256 €.
6. Roughly 261 €.
7. Roughly 279 €.
8. Roughly 288 €.
9. Roughly 297 €.
10. Roughly 303 €.