



8. Fair Coin Review

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The Problem

In many cases, disputes are resolved with a coin toss. It is presumed that this procedure gives **equal chances** of winning to both sides.

Investigate how the chances depend on the **tossing mechanism** and the **coin properties**.



The report

- Did not state the problem
- Probability theory + history
- Right coin
- Properties of coins
- Probability of heads and tails
- Did not describe methods
- Showed results tables
- Showed conclusions from results (1 ruble is best coin)



The opposition

- CQs: Does the drop height affect results? Did you change the angle of the coin when dropped? Do you have anything to predict what result you will get?
- Cons: did not explain problem, did not control important parameters, did not use different tossing mechanisms.
- Praised for doing many tests



Points discussed
How is the angle effective?
Change results
what things are error
another toss method



Angle

Opponent

- How does the drop angle affect results?
- But how?

Reporter

- It will change the probability
- Did not know

Our opinion: Agree with opponent



What changes results?

Opponent

Reporter

Our opinion



Another Method

Opponent

- Could you tell us another method?

Reporter

- I do not know any other methods

Our opinion : I believe that the reporter should have used another method however the opponent did also not suggest one.



Situation

Opponent

- Would changing the situation e.g doing it in water affect the probability?
- Why?

Reporter

- Yes
- I am not sure

Our opinion : I agree with the opponent that it could affect the results and should have been tested by the reporter.



Points missed

- Repeats
- Didn't explain why the coin was the best

