

0 Question: A bag contains one counter, known to be either white or black with probability $1/2$. A white counter is put in, the bag shaken, and a counter drawn out, which proves to be white. What is now the chance of drawing a white counter?

A1: It is unclear

A2: $2/3$

Arguments for A1

1 Question: If you put a white counter in and take a white counter out, is the bag unchanged?

A1: Yes

A2: Yes

3 Question: Is the probability of drawing out a white counter at the beginning $1/2$?

A1: Yes

A2: Yes

4 Question: Thus does it seem likely that the probability of drawing a white counter at the end is also $1/2$?

A1: Yes

A2: It might seem like that to some people, but it is incorrect

6 Question: Should we be uncertain when dealing with probabilities that are complicated?

A1: Yes

A2: Not when we can calculate the answer, as in this problem

Arguments for A2

2 Question: What is the probability that a white counter is drawn the first time?

A1: $3/4$

A2: $3/4$

7 Question: What is the probability that a white counter is drawn the first time and the second time?

A1: $1/2$

A2: $1/2$

8 Question: Given:
probability that a white counter is drawn the first time = $3/4$
probability that a white counter is drawn the first time and the second time = $1/2$
What is the probability that a white counter is drawn the second time, given that it is drawn the first time?

A1: It is unclear

A2: $2/3$

9 Question: Meta-debate: Given the questions and answers in this round, which is the better answer to the question?

A1: It is unclear

A2: $2/3$