

0 Question: A train is coasting around a large circular track. It is then switched to a smaller circular track. How does its speed change? Assume no friction, and assume the train is a point mass

A1: It's unclear, it could slightly decrease or it could stay the same

A2: Speed does not change (by any noticeable amount, say  $>1/1000$  of train's speed)

#### Arguments for A1

2 Question: How likely is it that the train's speed would not change by a noticeable amount?

A1: 75%

A2:  $>95\%$

4 Question: How likely is it that the train's speed would change by a noticeable amount?

A1: 25%

A2:  $<5\%$

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

A1: It's unclear, it could slightly decrease or it could stay the same

A2: Speed does not change (by any noticeable amount, say  $>1/1000$  of train's speed)

#### Arguments for A2

1 Question: Does conservation of energy apply to the train-rails system?

A1: Yes

A2: Yes

3 Question: Is the earth so massive as to effectively stop the rails from gaining kinetic energy?

A1: 98% Yes

A2: Yes

6 Question: If energy is conserved between the train and rails & the rails do not change in energy, does the train retain constant kinetic energy (and thus speed)?

A1: 75% Yes

A2: Yes